THE BUILDER

A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CXLIII. FRIDAY, SEPTEMBER 23, 1932. NO. 4677

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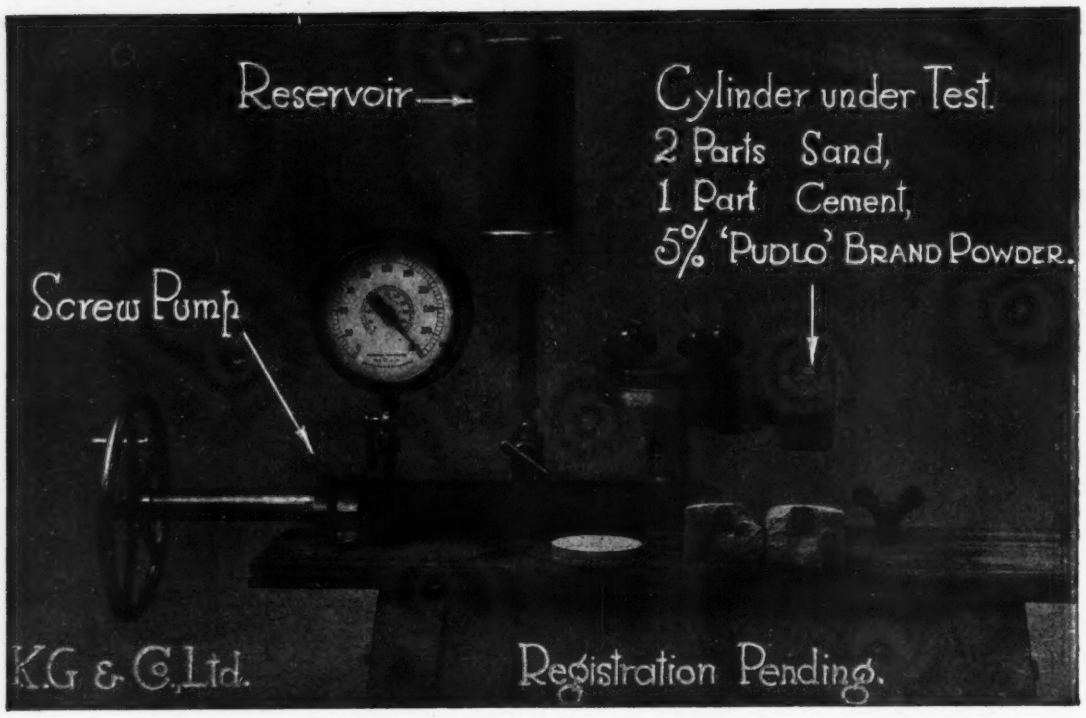
90TH YEAR

BUILDING TRADES' EXHIBITION, OLYMPIA

See this Test on Stand 43 in Row C



Above is shown one of the Testing Machines to be seen on Stand 43 in Row C by which the positive value of 'PUDLO' Brand Cement Waterproofing Powder is proved beyond doubt

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THE BUILDER
A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CXLIII. SEPTEMBER 23, 1932. No. 4677.

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CLAN MACRAE ROLL OF HONOUR 1914-18
WE ARE THE DEAD, SHORT DAYS AGO
WE LIVED, FELT DAWN, SAW SUNSET'S GLOW
LOVED AND WERE LOVED, AND NOW WE LIE
IN FLANDERS FIELDS.

The Clan MacRae War Memorial, Eilean Donan Castle, Ross-shire.

MR. GEORGE MACKIE WATSON, Architect. (*See page* 493.)

MEETINGS

FRIDAY, *September* 23.

South-Eastern Society of Architects. Visit to Olympia. 12.30 p.m.

Olympia. A Ball in aid of the Architect's Unemployment Relief Fund. Tickets (including supper), £1 (three for 45s.), from Mrs. Lanchester, Chairman Social Committee, R.I.B.A., 9, Conduit-street, W.1.

FRIDAY-SUNDAY, *September* 23-25.

National Smoke Abatement Society. Annual Conference. At Newcastle-upon-Tyne.

SATURDAY, *September* 24.

Sheffield and District Clerks of Works, Association of Architects and Technical Assistants, Incorporated British Institute of Certified Carpenters. Visit to Olympia. 4.30 p.m. Address by Mr. H. V. Lanchester, F.R.I.B.A.

MONDAY, *September* 26.

South-Eastern Federation of the Brick Trade. Visit to Olympia. 1 p.m. Address by Mr. Alan E. Munby, M.A., F.R.I.B.A.

FRIDAY AND SATURDAY, *September* 30-*October* 1.

Royal Sanitary Institute. Visit to Portsmouth. Friday: Mr. Joseph Parkin on "Municipal Engineering Works in Portsmouth." At the Guildhall. 4.45 p.m. Saturday: Visits to H.M. Dockyard and to Haslar Hospital. 10 a.m.

FRIDAY-MONDAY, *September* 30-*October* 3.

Garden Cities and Town Planning Association. Municipal and Social Study Visit to Cardiff.

SATURDAY, *October* 1.

Institution of Municipal and County Engineers. Meeting at the Town Hall, Stockton-on-Tees. Assemble 10.30 a.m.

MONDAY, *October* 3.

Royal Society of Arts. Mr. Robert Howden on "The Elimination of Reflections from Glazed Pictures in Galleries." 3 p.m.

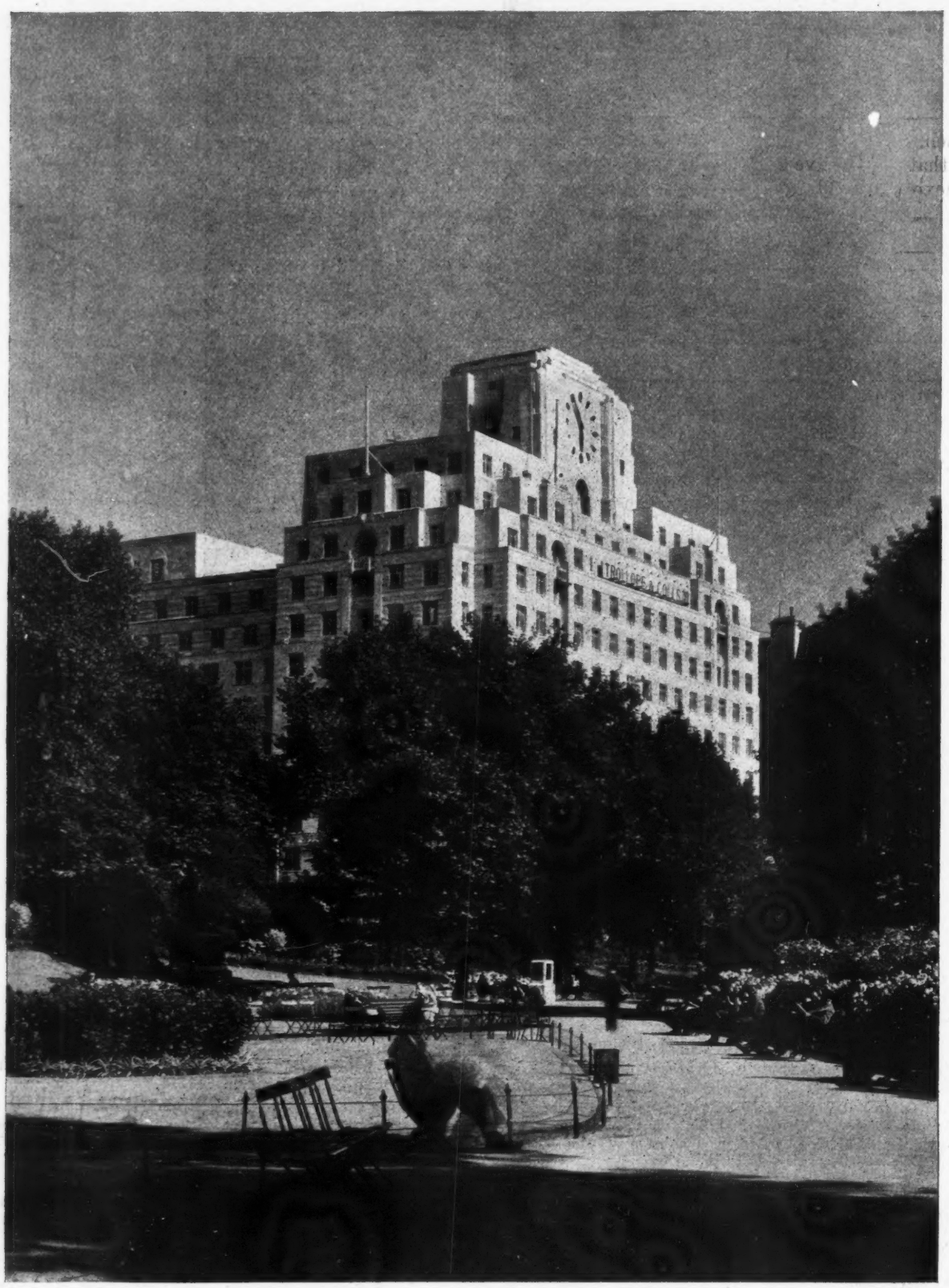
TUESDAY, *October* 4.

Institution of Heating and Ventilating Engineers. Dr. H. M. Vernon on "Measurement, in Relation to Human Comfort, of Radiation produced by various Heating Systems." At the Home Office Industrial Museum, Westminster, S.W.1. 7 p.m.

WEDNESDAY, *October* 5.

Institution of Structural Engineers (*South-Eastern Counties Branch*). Mr. J. A. Jones on "Steel and Concrete."

Institute of Patentees. Opening of the Eighth International Exhibition of Inventions. By the Rt. Hon. the Lord Mayor of London, Sir Maurice Jenks. At the Central Hall, Westminster, S.W.1.



The " Shell-Mex " Building, from the Embankment Gardens.

MESSRS. JOSEPH, Architects.

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RESEARCH*

WE have frequently stressed the need for the widest research in the field of building, and we welcome the publication of the report of the Building Research Board, of which we gave a résumé in our last issue. Building by traditional methods and by ingrained habit, making use of materials which have stood the test of time, has for so long represented the procedure of the builder and the architect, that the new idea has not often been given a fair chance. The proof of time is a very convincing proof, for which the chemist can offer so indifferent a substitute in many cases that many have been reluctant to risk failure in an unexplored field. The recent generation has been rich in inventions, and the pressure of social progress has encouraged such adventures. But there is no doubt that many inventors have been finally discouraged by the stone wall against which they have found themselves when making their appeal to the traditionally minded.

We have a great deal of sympathy with those who refuse to lay aside lightly the methods of building which have been proved by experience, in favour of others whose success rests upon theoretical expectation; for building is a responsible task which should weigh heavily upon all who have the control of it. On the other hand, there is no doubt that traditional methods have been perpetuated often under conditions for which they are unsuitable, and the builder by habit has often stuck to the letter of tradition while unconsciously relaxing much of its spirit.

In this connection we may cite the general speeding-up of building. Many of the old methods depended for their efficiency upon a strict observation of time. Things had to stand and take their turn to be effective. Yet we see to-day similar methods hustled through in a way that gives no chance for the traditional method to be effective. It would seem to be our choice whether we resist the impatience of the age and revert to slower methods, or so revise our ways of doing things and our choice of materials as to allow things to be done more quickly without suffering.

To be more explicit, we would refer to the relative quality of small house building in the last century and now. Many responsible people consider that the cheap but decent house of the 'nineties gives a greater impression of sound quality than that of to-day. Joinery seems to have had less difficulty in settling down; plaster walls seem less prone to surface cracks; flooring, despite square edges, appears to be tighter; and so on. And the reason is not far to seek. In those free-and-easy days a house was allowed to take its time in the building. Trade followed trade in leisurely fashion, and a year to build a house was not deemed extraordinary. Nowadays the builder is pressed at all hands, both by employer and his own interests, to turn the job over as quickly as possible. Ceilings and stud partitions are plastered while the timber is still wet; joinery and flooring are brought on while the whole carcase is ringing with water; and as the inevitable consequence we have cracked plaster and shrinking joinery. The two things—traditional method and modern haste—appear to be inconsistent and unreconcilable. We feel that this is a case to which the scientists may turn their energies with great profit, and we know that a great deal has been done by the Building Research Board to assist the builder to achieve at one operation building approaching the degree of perfection and speed approaching the needs of the times.

With post-war courage, many building ventures of hitherto unusual type were carried out in concrete. Some of these produced defects of porosity on the one hand, and of hard, cold conditions conducive to condensation on the other, but the Building Research Board has done a vast amount of good in exploring the remedies for those defects. Again, with examples of decaying stone about us, it was thought that concrete as a reconstructed stone was the solution of permanence. But events disproved many of the initial efforts. Surfaces crazed; moulds became distorted; and some of the show jobs of the cast stone world became sorry sights for the eye. Here, again, the Building Research Board played its part, and very much as a result of their efforts, added to those of the trade specialists themselves, we have to-day products in cast stone which compare favourably with the natural product, revealing none of the originally inherent defects, and apparently good to resist all atmospheric conditions likely to be met with.

Reverting to the matter of speed in building, the research carried out by the Board in the direction of colours and paints applied to new surfaces containing free alkali has helped matters considerably. It is now possible to decorate finally a new building with inert pigments which stand permanently without the defacement and unsightly discolorations which were once thought to be inevitable in new work. This has been a great assistance to commercial and industrial life, where the disturbance of a redecoration of premises twelve months after occupation often involves loss.

It is not possible to touch anything but the fringe of the activities of the Research Board, but we would take this opportunity of saying a word to those who regard the activity of a public body as evidence of bureaucratic conquest. From without the technical field the good work done is not always apparent, and the public may be assured that this work is a good work and has been well done. The fruits have already shown themselves, and as time goes on those results will be many times multiplied. And it is fit that this work should be publicly controlled and centrally administered to take it right out of the field of commercial and financial interests.

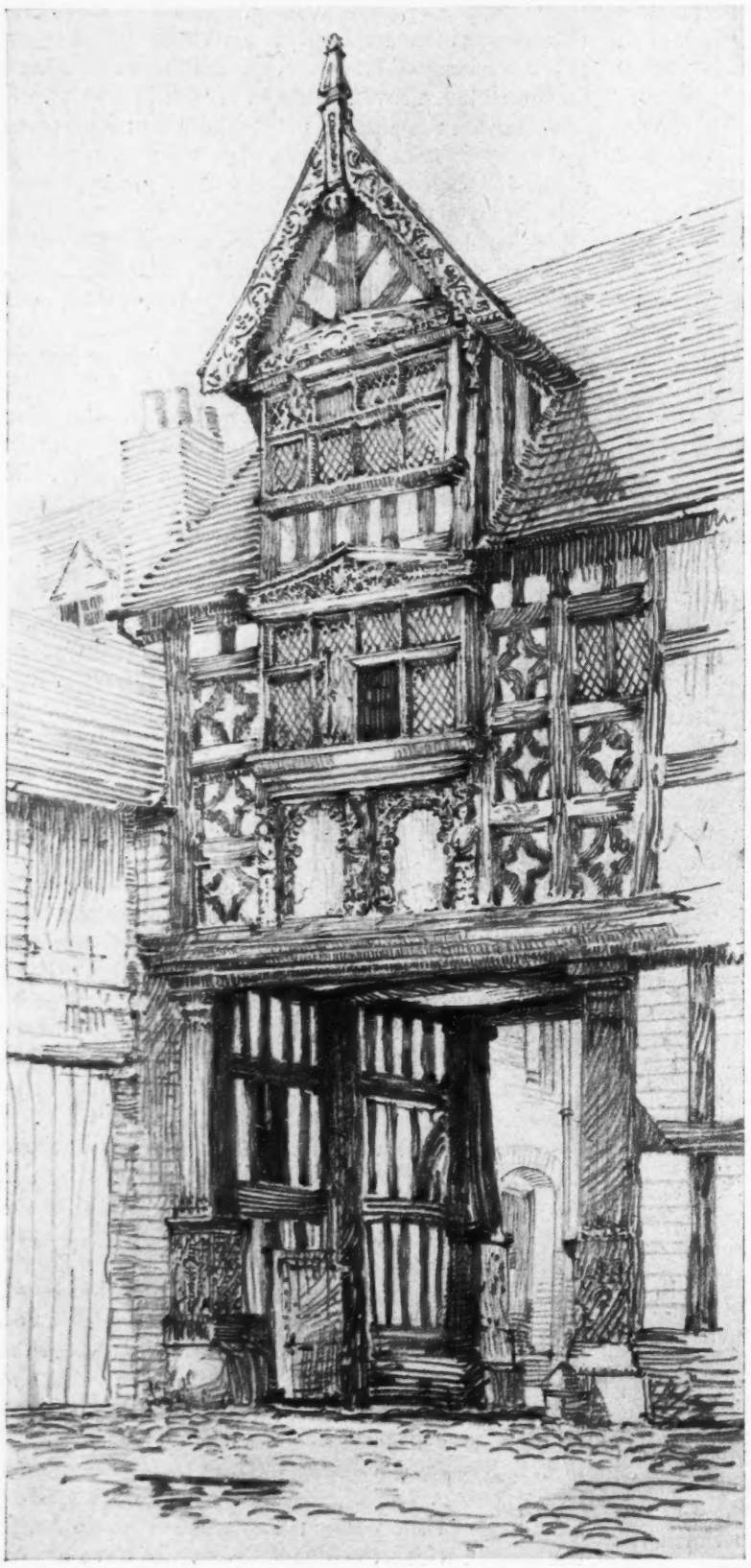
We are glad to see that the published report appends the names of the staff of the Research Station. The official is so often a cold and anonymous figure that we feel it only justice that the individuals who have devoted their energies to such skilled and valuable work should be given some prominence. Among the names are some very familiar to the building and architectural world, and highly qualified to give skilled opinion upon the practical problems of the times. We are glad to see that the personnel has been chosen in such a broad manner, and that efficiency rather than mere officialdom has been the note governing the choice. A body of skilled persons chosen from the actual field of activity is not only the likeliest to offer constructive effort, but is one of the most likely to acquire the confidence of the public; and there is no doubt, from the way in which the Board's activities have expanded in recent years, that it has already established itself as the natural reference for these difficulties which present themselves to progressive builders and architects.

* Department of Scientific and Industrial Research. Report of the Building Research Board for the year 1931. His Majesty's Stationery Office. Price 3s. net.

NOTES

Architectural Drawings at Olympia.

THERE are several features of the Building Exhibition which have contributed to its undoubted success, not the least interesting being the various exhibits of drawings in the gallery. The exhibition of Royal Academy drawings appears to be seen under almost ideal conditions and provides an illustration of the effect to be obtained by a spacious and extended display. Even though the hanging might have been carried out more happily, the drawings are not fitted to the walls, jig-saw fashion, as we are accustomed to see them at the Royal Academy Architectural Room. They are nicely spaced, and are seen effectively and in far more comfort. The cramped conditions under which drawings are shown at the Royal Academy have always been criticised by architects, and quite rightly. It would be a poor look-out for painters and craftsmen if buildings were not available for them to decorate or in which to house their work; therefore the Academy gallery exhibiting the architectural work of the year should have suitable space allotted to it.



The Council House, Shrewsbury.

From a pencil sketch by MR. E. GARDHAM.

Architects' Sketches.

ADJOINING the Academy drawings is another exhibition for which we wish every success, as it is in aid of unemployed architects. Many architects and others have contributed pictures which are to be drawn for and distributed to purchasers of tickets—every ticket-holder getting a prize. The response to the appeal for drawings has been successful, as the drawings on view show. Many are the works of men whose names are familiar. It is of interest to see the work of architects when they drop the tee-square, set-square and eighth-scale. Here we have various subjects depicted in different mediums; naturally, architecture predominates, though there are many excellent landscapes, figure and still-life subjects, as well as some good etchings. Amongst the names of those represented are the late Sir Ernest George, Mr. Wm. Walcot, Mr. A. C. Conrade, Mr. A. C. Fare and Mr. T. Raffles Davison. Opposite this display is another exhibit of more practical interest, *i.e.*, the houses designed by a group of well-known architects suggesting a better standard for estate development under speculative conditions and for buildings along our great new roads, the disfigurement of which is a constant source of discussion. These drawings and plans are receiving considerable attention and in our last issue we gave some of the best examples.

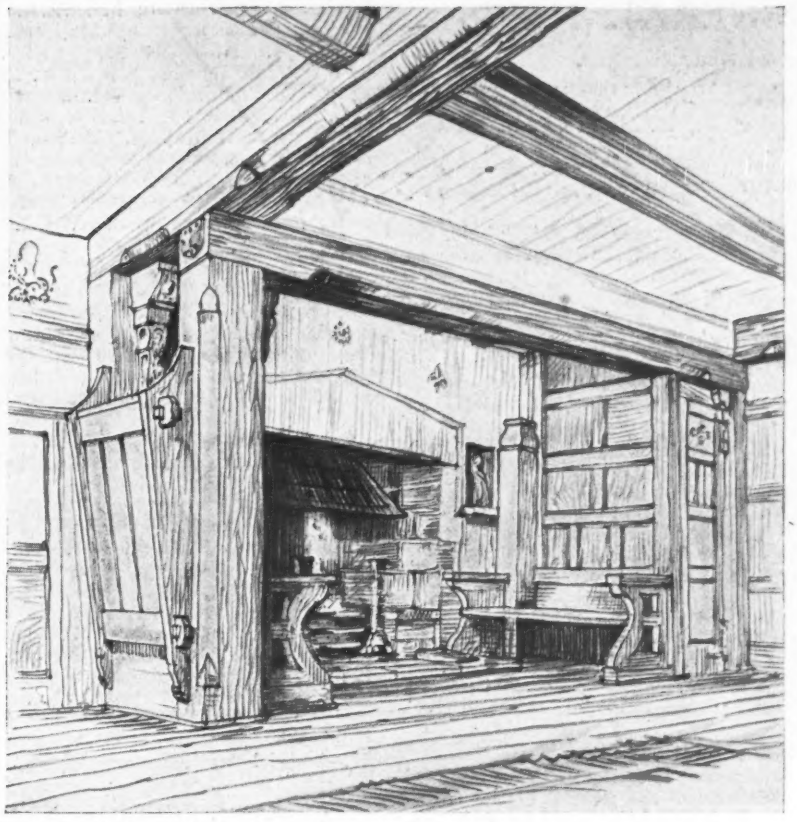
Architects' Designs for Small Houses.

A CORRESPONDENT writes to us as follows:—"I have given some time and thought to the exhibition of architects' designs for speculative builders at the Building Exhibition. One very forcible and vital point is that in the vast majority of speculative builders' houses the frontages do not exceed 40 ft. and are sometimes less. With a 40 ft. frontage, a garage has often to be provided. Land on the outskirts of large towns is bound to be costly—hence the limited frontage. Here is a much more difficult problem for the architect to solve—houses for the long, narrow-fronted site. It is, indeed, much easier to design a house with an unlimited frontage, but a speculative builder has to build a house to suit land available. The persons he caters for are the multitude, and he has to provide a type of house, with a certain accommodation, at a reasonable figure. Speculative or so-called jerry-builders have no desire to spoil the countryside; they have to provide, and do, houses within reach of the pocket of a large class, for which there is a demand. Perhaps some of our architects would give us their ideas for the treatment of design for this type of

house and show the speculative builders how to overcome the ribbon development."

Work Schemes for the Winter Months. A CORRESPONDENT, who does not give his name, writes to us on this subject as follows:—"We shall shortly be facing winter, and in view of the unhappy continuance of unemployment, plus the fact that road relief schemes are now no longer available, may I draw attention to the possibilities for useful action on the part of many public authorities, by way of putting down hard tennis courts? As will be known, municipal tennis, correctly organised, is a valuable producer of municipal revenue. This has already been realised by many public bodies, and gratifying financial returns are reported from many parts of the country. For example, Birmingham Corporation last year reported an income of £5,500 from its public tennis courts. Sheffield, too, although situated in a district where trade conditions are by no means good, and handicapped by a wet summer, received more than £1,800 during 1930 from players on municipal tennis courts. And the fact still remains that tennis enthusiasts continue to be unable, in many districts, to find sufficient courts for their requirements, and even in London, notwithstanding the extensive facilities provided by the L.C.C., it is frequently the hardest thing in the world to get a game of tennis in the height of the season in the London parks. Needless to say, a good deal of the work of preparing the sites for tennis courts can be carried out by unemployed and unskilled labour, and can be put in hand during autumn and winter with every success. Special emphasis should, I think, be given to the importance of the courts being of the hard, all-year-round variety."

Reorganisation at the Polytechnic. KEEPING pace with the most recent developments in architectural education in Europe, the Head of the Polytechnic School of Architecture, Surveying and Building, 309, Regent-street, W.1, Mr. G. A. Mitchell, F.R.I.B.A., has effected, in collaboration with Mr. L. W. Thornton White, A.R.I.B.A., a reorganisation of certain sections of both Day and Evening Departments. The staff of the School has been in part re-cast and augmented by several new members. Mr. E. Maxwell Fry, A.R.I.B.A., B.Arch. (Liverpool University), Mr. John Breakwell, A.R.I.B.A., A.A.Dip., Archibald Dawnay Scholar, Mr. R. C. White-Cooper, M.C., B.Arch. (London University), A.R.I.B.A., Donaldson Medallist, and Mr. J. T. Lloyd, A.R.I.B.A., Dip. Arch., London University, have joined the lecturing staff in Architectural Design. The Atelier of Architecture under Mr. Thornton White (for advanced and post-graduate work) has been extended to include Detail Design, with Mr. Serge Chermayeff, L.R.I.B.A., as lecturer. Mr. J. W. S. Stephens, P.A.S.I., will lecture to architectural students on Practice and Procedure, a new course covering all legal and professional aspects of practice. Lectures in Quantity Surveying for both Intermediate and Final examinations of the Chartered Surveyors' Institution will be taken by Mr. A. J. Willis, F.S.I., whom Mr. C. E. Kenney, F.S.I., will assist. In the Day School, Mr. Alan E. Sorrell, A.R.C.A., Rome Scholar in Painting, will instruct the senior students in drawing and decoration, continuing the good work of Mr. J. A. Ray, who is to be in charge of the art work in connection with the new School of Cinema. Several practising architects and surveyors, of the highest standing, have promised to serve on juries assessing students' work and to act as critics, in addition to practising members of the School staff.



Ingle in Dinmore Manor, Herefordshire.

From a pencil sketch by MR. E. GARDHAM.

A Scottish Restoration. A NOTABLE work of reconstruction has been carried out at Eilean Donan Castle, one of the most picturesque of the many Highland castles traditionally built in the 13th century under the direction of Alexander II, Scotland's great castle builder. The castle stands on a rocky islet at a point where Loch Duich meets Lochs Alsh and Long, and until 1912 stood a hollow and battered ruin, having been blown to pieces by British frigates in 1719. Closely associated from very early days with the Mackenzies of Kintail (the original owners), was the old Ross-shire clan of MacRae, and it was a matter of great satisfaction to Highlanders when, in 1912, Lieut.-Col. John MacRae-Gilstrap acquired the ruins and commenced upon the restoration which now, after twenty years, has been completed. Built on such of the old foundations as remained, in everything there is evidence of the spirit of the middle ages, and all fitments are witness to the works of the craftsman—adzed oak work, hand-wrought ironwork, masonry, and all. The ancient yett, or gate—which had been thrown down the castle well—has been recovered and replaced in position. Two features of outstanding interest are the Constable's room and the withdrawing room, both built in the thickness of the walls. Each is finely panelled in oak and has in the ceilings some stones weighing as much as 25 cwts. each. Our illustration (page 489) shows the shrine at the Castle which contains the Memorial to the 423 men of the Clan who fell in the Great War. The restoration work was carried out by Farquhar MacRae, under the guidance of Mr. George M. Watson, the architect. The reconstruction is a further testimony to the rich resources of Scottish art to-day.

Cottages at Burnham Market, Norfolk. WE are informed that a contract has just been settled for the building of cottages in pairs, with 760 sq. ft. floor space, at Burnham Market in Norfolk, at an all-in price of £285. This includes everything except land and legal charges. This very low contract figure was the result of a discussion between officials of the Ministry of Health and Mr. East, the architect of Docking Rural District Council. There is a contingency sum of £2 10s. allowed. The houses at Burnham are being erected under the 1924 Act.

GENERAL NEWS

Professional Announcements.

Messrs. Home and Knight, FF.R.I.B.A., have moved their offices to 3, Verulam-buildings, Gray's Inn, W.C.1. Telephone: Chancery 7430.

Mr. Lawrence Wright has moved to No. 8, Garway-road, London W.2. Telephone: Bay. 3837.

Mr. Chas. H. Isaacs, L.R.I.B.A., of No. 26, Ludgate-hill, E.C.4, is changing his address on September 29 next to 63, Portsmouth-road, Surbiton, Surrey ('phone: Kingston 4722), where he will continue to carry on his practice, and will be pleased to receive trade catalogues, etc., as heretofore.

Messrs. Alfred and David Ospalak, are removing to more commodious offices at 13 and 15, Old Queen-street, Westminster, S.W., on October 1. Telephone numbers: Whitehall 3324, 3325 and 3326

An Appointment.

Mr. Ronald Sawtell, Deputy County Surveyor to the North Riding County Council, has been appointed County Surveyor.

R.I.B.A. Intermediate Examination.

Following are the dates on which the forthcoming R.I.B.A. Intermediate Examination will be held:—November 18, 19, 21, 22 and 24. Last day for receiving applications: October 18.

"The Parthenon."

We understand that the October issue of "The Parthenon," the journal of the Incorporated Association of Architects and Surveyors, will announce its conversion from a bi-monthly to a monthly periodical. The format of the journal will not be altered.

Architects' Estates.

Mr. Clement George, F.R.I.B.A., of Murtle, Aberdeen (personal estate), left £6,691.

Mr. Thomas Robinson, of Stourbridge, retired architect, who died on June 9, aged 79, left estate of the gross value of £54,132, with net personalty £52,135.

The Bristol City Engineer.

At a recent meeting of the Bristol Corporation Housing Committee a vote of thanks for his long service was expressed to Mr. L. S. McKenzie, city engineer, by Alderman J. E. Jones, chairman. Alderman Jones paid the following tribute to Mr. McKenzie:—"He has thrown his heart and soul into his work and has given us great help in the selection of sites, layouts and the purchase of land. In the early days, when we had to push forward with housing, what we should have done without him I don't know." Alderman Jones wished Mr. McKenzie health and happiness and a long retirement.

New Police and Fire Station, Accrington.

The laying of the foundation stone of this building was performed by Sir Herbert Samuel, G.C.B. (Secretary of State for Home Department), on Tuesday last. This building formed the subject of a competition, won in 1930 by Mr. Percy Thomas, F.R.I.B.A. (Messrs. Ivor Jones and Percy Thomas), of Cardiff. The contract for the superstructure was placed with Messrs. P. Cunliffe and Son, Ltd., of Accrington, who commenced work four months ago. The scheme comprises police building, courts and adjacent offices, fire station, twelve houses for firemen, mortuary and post-mortem block, baths block and hose tower in connection with the fire station. The competition designs were illustrated in our issue of June 6, 1930.

A.A. Non-technical Lectures.

Five non-technical lectures on "Present-Day Architecture at Home and Abroad" have been arranged by the Council of the Architectural Association for the general public, and will be given on the following Saturday afternoons at 3 o'clock, at the association's premises, 34-36, Bedford-square, W.C.1. They are as follows:—October 15, "The Small House," by Mr. A. W. Kenyon, F.R.I.B.A. October 29, "The Flat," by Mr. G. Grey Wornum, F.R.I.B.A. November 12, "The Inn," by Mr. Joseph Hill, F.R.I.B.A. November 26, "The Theatre," by Mr. G. A. Jellicoe, A.R.I.B.A. December 10, "The Church," by Mr. Edward Maufe, F.R.I.B.A. All the lectures will be illustrated by lantern slides. Tickets for admission to the whole of the lectures may be obtained free on application to Mr. F. R. Yerbury, secretary, The Architectural Association, 36, Bedford-square, W.C.1.

Town Planning Institute.

Several interesting events are detailed on the programme of the fourteenth annual country meeting of the Town Planning Institute, to be held at Hastings from October 7-9. On Friday, October 7, the members will be welcomed by the Mayor (Councillor G. H. Ormerod, J.P.), after which Dr. Thomas Adams, F.R.I.B.A., F.S.I. (P.P.), will describe the South-East Sussex Regional Scheme and the General Development Plan for Hastings. In the evening a reception will be held at the Queen's Hotel by kind invitation of the Mayor (Councillor G. H. Ormerod, J.P.). On the Saturday a tour of inspection of the borough, conducted by Mr. Sidney Little, A.M.Inst.C.E., Borough Engineer, will be made, the Institute dinner being held at the Queen's Hotel in the evening. On the Sunday, by kind invitation of the Mayor, a motor coach tour of the South East Sussex region has been arranged. Fuller details are obtainable from Mr. A. R. Potter, secretary, 11, Arundel-street, Strand, W.C.2

COMPETITION NEWS

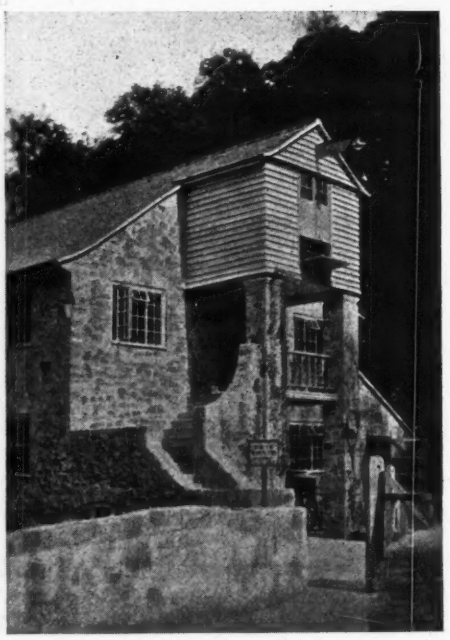
Proposed Louth County Hospital, Dundalk.

Mr. Thos. J. Cullen, F.R.I.A.I., 25, Suffolk-street, Dublin, has been appointed assessor for this proposed competition. No conditions have yet been received.

Architecture at the Olympic Games.

The R.I.B.A. issue the following statement:—Great Britain has secured a notable success, for the Gold Medal for Architecture at the Tenth Olympiad held at Los Angeles this year has been awarded to Mr. John Hughes, A.R.I.B.A., Dip.Arch. Liverpool, late of the Liverpool School of Architecture, University of Liverpool. The subject of the competition was a design for buildings for the practice of sport. This announcement is interesting in itself, but it is doubly so when it is realised that architecture, music, literature, painting and sculpture had their place at the Tenth Olympiad as well as hurdles and boat-racing.

This design was illustrated in *The Builder* for August 12, 1932.



A new Mill at Dartington, South Devon.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Building Industry National Council.

SIR,—My attention has been drawn to a report published in the Press of a meeting held at the R.I.B.A. premises, and attended, so the report stated, by representatives of every section of the building industry, when a draft constitution for a National Council was submitted.

I have already pointed out to Sir Raymond Unwin, P.R.I.B.A., that the phrase "several organisations were represented" is more accurate than that of "representatives of every section of the building industry." As a fact, not only this Association, but others of equal importance, were not "represented" at all, either by an individual member or by any responsible official thereof.

The objects of the meeting may be in the highest degree praiseworthy, but it ought not to be publicly proclaimed that the meeting was comprehensively representative when such an Association as this or the others which I have referred to were not present to voice their own views on matters of vital interest to an industry whose welfare is as important to our profession as it is to the industry concerned and the public which we both serve.

Who, therefore, circulated an entirely erroneous report passes my comprehension.

G. B. J. ATHOE, Secretary,
Incorporated Association of Architects and Surveyors.

Professional Etiquette.

"He that is greedy of gain troubleth his own house: but he that hateth gifts shall live." Proverbs 15 and 27.

SIR,—The matchless Kreuger affair has disclosed a state of things in the realm of high finance and politics which no one would have believed possible in the modern world if the figures had not been made public. As it is, we may be pardoned for expressing a doubt if the worst has been told and for assuming that many implicated have escaped detection through lack of documentary evidence. Hundreds of persons must have been "squared" before such a colossal scheme of misrepresentation could have been carried through.

The "Code of Conduct," as printed on page 107 in the R.I.B.A. Kalendar, makes the architectural "twelve commandments" about as clear as it is humanly possible to make them, but there are certain border-line cases which every man must determine according to his individual ethical standards or hereditary inhibitions.

It would be presumption on our part to assume that the profession is composed of a greater proportion of angels or archangels than other professions. The severity of the economic depression appears to have lowered the general standards of integrity, and there are many pitfalls and opportunities for the "hale fellow well met" in the profession to sail too closely to the wind or put an ace up his sleeve.

Situations may arise which would require a wiser man than Solomon to decide whether a certain line of action were wise or otherwise. With your kind permission, sir, may I state a few which, I may explain, are all hypothetical, but all of which are within the range of everyday experience.

Let us suppose that an architect marries a very successful builder's daughter. (This might be an excellent financial proposition.) The builder gives his daughter the present of a house. (Very natural.) The architect naturally shares the present. Is it not conceivable that this architect will be inclined to favour his father-in-law in future offers for contracts? Because it is natural, it is not necessarily right or necessarily wrong, but the wrong in such a case would be in any action arising from the above-named circumstances, doing an injustice to a third party.

This point gives the key to the whole question. In the case of an architect taking gifts, either in money or goods, from a merchant or contractor, it must be either a business proposition or "an act of good will" or "done in good faith," whatever that may mean.

Again: suppose an architect in a distant town writes and asks you (an architect) to recommend a local surveyor to act for him in connection with the erection of a building in your area. You do so and inform the surveyor. He is appointed. Are you justified in accepting a commission from this surveyor for having been instrumental in securing him this commission? I am told "it is the custom" to give "a gift" on a percentage basis under such circumstances. To receive a cheque for, say, £10, £20 or £30, for writing a letter seems to me to be absurd. For a commission agent it may be justified, but for an architect, degrading.

Again: suppose an architect has a brother, cousin, relative or dear friend, a dealer in fine carpets. Through his position as architect he is able to put much business in the way of this dealer. The architect is getting married, and his friend the dealer offers him a handsome drawing-room carpet or a few Bokharas for his wife's boudoir or his entrance-hall. What has the law to say to this? The purely legal aspect of human conduct cannot be taken as a true guide, as the law is concerned mainly with the letter and rarely recognises the existence of the spirit of an action.

The ordinary business man would not give such cases a second thought, but an architect is, or should be, something very much more than a mere business man. I have frequently discussed this question with business men and their agents, and it is clear that in all cases where a secret commission is accepted it does not come out of the dealer's or contractor's pocket, but is added to the client's account. It would be "bad business" if this were not so. Law or no law, that is the beginning and end of this business. The spirit underlying the above cases may be what is called "acting in good faith," but each is liable to misinterpretation through ignorance of the special circumstances.

Again: an architect gets a big contract where there is a lot of high-class woodwork to design and detail. For such work he is entitled to charge at least 10 per cent. commission. He gets the whole designed and detailed by a furniture firm, who keep a staff of expert designers, and still charges 10 per cent. to his client. It is clear that the client has been charged twice for designing and detailing this woodwork, for the furniture firm do not keep a staff for such work without including the expense in their estimate. This is the most subtle of all secret commissions, and there are no two names for such methods of doing business.

Again (an affair of honour this time): An architect wishes to apply for membership of the Institute. He cannot draw (in the real sense). He submits another's drawings with his application!

Again (an actual case this time): A young architect called on me the other day and told me he had just received a commission to build a house (a large house, as houses go to-day). He had called on his client the night before to receive instructions, and was told that several architects had called that day asking for the work! As I do not suppose you would care to publish their names, I am not sending them to you. If I thought they would be suspended for a year from the Institute and have their names printed in the "Journal," I might send them to the proper quarter. Is this not reducing architecture to the level of the commercial traveller?

No man with strong inhibitions inherited from a long line of puritanical, presbyterian, calvinistic, independent conservative ancestors need expect to find architecture a floral garden, rose or otherwise; but for most of us the fascination of the game makes it greater fun to lose at it than succeed at any other.

Perhaps the clear, logical intellect of Mr. W. T. Creswell might be able to throw further light on the subtleties of the above cases, hypothetical and otherwise.

WILLIAM DAVIDSON.

Architects and Alleged Illicit Commissions.

SIR,—As a reader who has followed the correspondence on this distasteful but nevertheless very important subject, may I be permitted to express surprise that we still remain without any reassurance from Conduit-street? Dignified aloofness and contempt may on occasion serve, but in this instance the attack made on the profession at large appears to have so powerful a backing that many will interpret silence as an admission of guilt.

Up to the present, as far as can be gathered from the published correspondence, the only question at issue appears to be whether it is the big or the little men who are the more culpable. PUZZLED.

SIR,—The outstanding advance in regard to this subject accruing from the otherwise rather futile correspondence following upon my letter which you published on July 1 is undoubtedly comprised in the admirably concise and fundamentally sound statement contributed to *The Builder* by Mr. W. T. Creswell, Hon. A.R.I.B.A., Barrister-at-Law, in your issue for September 9. The profession ought to feel sincerely grateful to you for thus publishing such a timely "considered opinion" from so eminent a member of the Royal Institute of British Architects on this most unpleasant subject. Dishonest conduct on the part of any architect, such as accepting illicit fees, necessarily goes to discredit the reputation of his fellows. No dalliance, therefore, on so requisite a business can be permitted if architects' rights and status are to be guarded against trespass or infringement. Compromise is impossible with our detractors on their plea of idiosyncrasies of an ungovernable residuum as incidental to any system of commercialised trade unionism.

The survival of the spirit of mediæval guilds constitutes the bedrock of the incorporated plutocracy of architectural craftsmanship as distinct from competitive profiteering.

Consequently, when I had read Mr. Wareham Smith's interesting "autobiography," otherwise entitled "Spilt Ink" (published by Ernest Benn, Ltd.), I felt it a duty to draw attention to his unqualified allegations, which I quoted verbatim in my communication to your journal, as above stated. Having become an octogenarian retired from practice, perhaps I may not be included in the indictments referred to. However that may be, I am willing to accept Mr. Wareham Smith's assurances, put forward in his "Life," that he never knowingly accepted any advertisements for Lord Northcliffe's newspapers (with which he was associated) from either moneylending firms or manufacturers of questionable goods. Quite right, too. But unfortunately Mr. Wareham Smith did not hesitate to defame an honourable profession, about which he evidently knew but little, stating that "in consideration of 15 per cent. commission on orders they [architects] were perfectly willing to recommend to house purchasers certain brands of paint, wallpaper and firegrates." I said that Mr. Wareham Smith ought to substantiate or withdraw such statements, and he has not responded.

His assertions, if allowed to pass, cannot fail to help in hampering many architects in these days of severe depression in the building industry, where there is really not enough work to go round. It is a matter of regret that at such a time the profession seems to be needlessly encouraging candidates by educating and passing them on for election at Conduit-street, regardless of their fate. Added to this condition of affairs, Registration tends to lower technical efficiency, and consequently the recognised standard of reliability hitherto expected of individuals seeking admission into the R.I.B.A. is scarcely now maintained.

Obviously the Institute, following the rules of etiquette adopted by solicitors, physicians, surgeons and dentists, as well as other professions, must take the lead, as mentioned by Mr. Creswell, in righting their affairs by adopting some such scheme as he so ably outlined to govern the conduct and practice of its members. I am assured that our Practice Committee has been considering the matter during the recess, and hope a move will soon be recorded, in the best interests of all concerned.

MAURICE B. ADAMS,
F.R.I.B.A. (retired).

Bedford Park, W.4.

The Lincolnshire Churches: What Stone was Used?

SIR,—In *The Times*, of August 29, appeared a very interesting letter from the pen of Mr. E. Guy Dawber, A.R.A., on the beauty of the churches in the Lincolnshire Fens. Mr. Dawber pointed out that if our American friends visiting this country, and any of our own people, wish for a peaceful and interesting holiday they could not do better than spend a few days in the Lincolnshire Fens and Wolds, and see a group of truly magnificent churches and quiet rural scenery unequalled in England.

One agrees with this, for, as Mr. Dawber points out, many people think that our great cathedrals represent all that is best and most characteristic in ecclesiastical architecture, and, having seen them, that it is unnecessary to look at the smaller churches; but the small churches here are a real revelation. It is here one gets an insight into the craftsmanship of the Middle Ages. The scale and size of these little churches fill us with admiration, for, though they all bear a strong family resemblance, yet, as Mr. Dawber points out, no two are alike, and all differ in one way or another.

Mr. Dawber says these churches are mostly built of Ancaster stone, but it is in Lincolnshire commonly reported that much of the stone used came from Barnack, in Northamptonshire, and some from quarries near Lincoln. Some of the stone is very hard and durable and weathers to an exquisite silver-grey, as Mr. Dawber remarks, but it would be of interest to know if the work showing the sharpness and boldness of the mason's work, evidently executed by highly skilled craftsmen, is mainly in Ancaster, Barnack or other stone. The question of the stone actually used is of importance, for it is urged that Ancaster stone is mainly best fitted for interior work. Perhaps some reader can speak more decisively as to this.

EDWARD A. JOLLYE, A.R.I.B.A.

"Hot Water in Plenty."

SIR,—There is a doubt about the last word in the sentence "Hot Water Supply in Plenty," to my mind, as the illustration shows the return pipe connected so as to give a reverse circulation as soon as the drawing-off tap over any lavatory basin or bath is opened. The cold water would pass along the return pipe and cool the hot water coming from the flow-pipe side of the tap, and the water would lose a large amount of its heat. But, of course, as soon as the tap were closed the normal circulation would be renewed. The cold feed should go direct to the boiler.

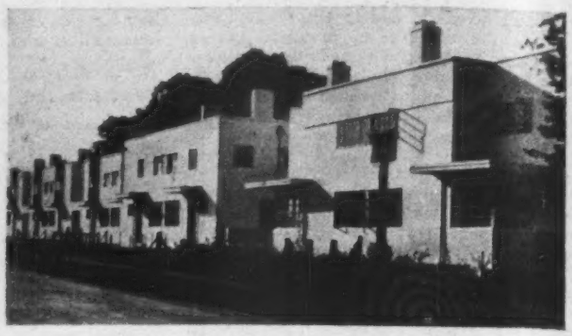
The connection of the flue pipe with the kitchen chimney is not advisable, as it may spoil the draught of the chimney, and cause a slowing up of the powers of the range. I know many architects are very much opposed to having any interference with a kitchen chimney.

I may say that during the War I was on the staff of the Royal Engineers at a camp, and was ordered by the Division Officer, R.E., to put in a service practically as shown in the illustration accompanying this article, and though I pointed out that it was not practical, he was obdurate, and I put it in as he directed. After three weeks I had to get it taken out, and the cold supply altered. Hence I suggest that the hot water would not be in "plenty" as the circulation is now shown.

FOREMAN OF WORKS.

[Other letters are held over.—ED.]

General View.



Whitewashed Brick Houses.

THE VILLAGE LAYOUT

III.—SILVER END, ESSEX.

By FRANK BENNETT, A.R.I.B.A.

Silver End is the new "Crittall" village lying north of Chelmsford and dividing the distance between prosperous Braintree and the easy-going Witham. After Finchingfield and Long Melford, Silver End strikes a staccato note of contrast. This community living in new-built houses, working, shopping, resting, playing, and assembling within its own boundaries, grew out of the conception of one mind and was formed in the light of the newest ideas on street planning and housing lay-out. Except the name, borrowed from the old hamlet, everything is new—the broad spreading workshops, the double-storied houses joined in twos and threes or standing singly, with gardens front and back, the general store, the high-roofed hotel, the village hall, the "Manor," the church, the bank, the public-house, the tea-room, the school, and the fish-supper bar.

Opportunity has been seized, within the limit of a fairly strict economy, to make experiments. The village store, anticipating future growth, throws up a large-scale portico unifying its two tall glass-fronted stories. The latest houses, the feature by which Silver End is best known, eschew the pitched roof and sharply finish off their block-like forms with low, regular parapets, lining continuously but relieved at intervals by white square-cut chimney-stacks.

Apart from newness, the wide and airy spacing of the village gives the first impression. The broad meadows allocated for present or future recreation, and the grass- and tree-lined avenues separate widely the slender lines of bordering houses. The feeling of freedom and wider culture is strong. Each worker, however small his income, has room to live a full life so far as fresh air, sunlight, contact with the soil, and a properly built house will allow. Men issue from the works of an evening as toil-stained and tired as any to be seen in a manufacturing town, but retiring quickly into their houses they soon emerge washed and reclothed as new creatures, leisurely and apparently care-free.

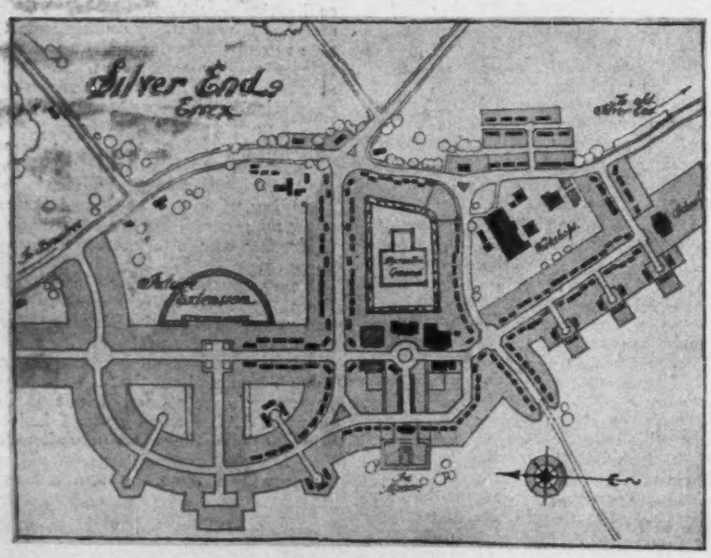
These houses with flat roofs give rise to several thoughts. Being stressed horizontally, well proportioned and pierced by

One of the larger Brick and Stucco Houses.

window openings of ample size, they possess good domestic quality, but lack the very part of a habitation which, since the beginning of building, has been its distinguishing feature, namely, a pitched roof. Psychologically, can it be a house without the inclined surfaces to throw off rain and snow and enclose the space beneath? The original house was all roof and no walls; the walls gradually grew up under it and now cast off the protection. The horizontal silhouette against the sky looks incomplete, however well the house is handled. At Silver End the trees, as yet saplings, will rise high ere long, and with their sinuous density contrast the whiteness and block shapes of the houses. But I suggest the trees were better planted at the back than in front of the houses, an item in which the old-world village scores over this new one. If the flat roof is really cheaper than the pitched, undoubtedly it must come to stay.

The plan shows the lay-out for the future as well as the existing village. The workshops are placed to the north, the school set apart to the east at the end of an avenue, and the village hall stands in the centre flanked by communal buildings and faced by the "Manor" down a tree-bordered walk. The "Manor," although not a large house, gains a relative importance by contrast with the two one-story bungalows on either side of it.

The use of pink bricks must be mentioned. They have been pressed into service almost exclusively for the making of walls, either plastered or whitewashed, or left plain as a facing material. As the last they seem unwilling to weather well and refuse to combine with any other colour, but with a coating of whitewash, partly worn off by wind and rain, they now look pleasant enough.



THE MANCHESTER SOCIETY OF ARCHITECTS

The last of this year's series of summer visits was paid by the Manchester Society of Architects on Wednesday evening, September 14, The building visited was the Stretford Town Hall, now in course of erection, designed by Messrs. Bradshaw Gass and Hope, members of the Society. A large number of members were conducted round the building by members of the firm of architects.

A very complete set of drawings was on exhibition, and was explained by Mr. Adamson. The plan is arranged on well-established lines, forming three sides of a square, partially enclosing a large courtyard, with the rates office separately entered, and with a fine council suite over it. The various departments have central corridors with borrowed lights from the offices on either side. These are arranged on two floors, with a third floor left available for future extensions. The facings are of Ruabon bricks with Darley Dale stone dressings, and the whole forms an interesting and dignified conception. Unemployed local labour has been used for much of the work by arrangement with the Ministry of Health, and is affording some interesting experience to both architects and builders.

The best thanks of the Society are due to the authorities, to Messrs. Bradshaw Gass and Hope, and to Messrs. Marshalls, the contractors, for their kindness in permitting the visit to be held, and for the facilities for inspecting the drawings

RENAISSANCE OF TOWN PLANNING

With a new Town Planning Act about to come into operation and with some twenty-two years of officially guided experiment behind us, we may with advantage devote some thought to the problems which have emerged from our growing experience. Amongst these, and perhaps the most pressing of them all, is the necessity for ensuring a more happy translation from the theoretical potentialities of the paper plan to the actuality of development, and we have seriously to consider to what extent our undoubted achievements in the campaign against haphazard development conform to our conception of urban building. Despite organised and influential opposition, an ever-increasing number of local authorities all over the country are quietly pursuing a wise and economical policy of planning for development, and beneficial results have undeniably accrued from a steadfast and directive control of building and the retention of non-building areas for recreative purposes.

At the same time, it is becoming increasingly obvious to planning authorities that a greater efficiency in the distribution and segregation of function is alone insufficient and that the ideals of town extension at which they aim are to a large extent being stultified by the lack of architectural merit, both individual and co-ordinated, displayed in the unfolding of their plan, and as a result it has been found advisable in many areas to empanel the aid of professional (and usually honorary) advisers in an attempt to induce a higher standard in the elevations of buildings.

It must be admitted that architecture in the smaller domestic work is at a low ebb, and it would seem that we have to seek a more efficacious remedy if any general improvement is to be effected. The Advisory Panels or Committees which have been set up to control elevations are suffering under an enormous handicap, in that despite the excellent work of correction which they are doing in the case of individual buildings submitted for their criticism, we have not yet succeeded in obtaining (and cannot by this method obtain) for our suburban developments that corelation of building which alone can give us a civic architecture.

We have to an alarming extent exchanged monotony of one sort for monotony of another. It is true that we have ensured the admission of adequate light and air to the humblest of our suburban dwellings, and this fact is one which the strongest opponents of town planning do not seek to deny. But whilst we have achieved much in avoiding congestion we have not yet satisfied the claims of seemliness and dignity in outward appearance, and in the place of endless streets of undistinguished terraces we have now many square miles of unrelieved semi-detached villas. The problem of suburban development demands a solution which, in conforming to the hygienic standards now generally accepted by a once sceptical and grudging body of opinion, shall also assist in reviving the neglected art of town building.

It may be that to some extent our self-imposed limitations of density, uniformity of building line and other methods of enforced regularity have tended to dragoon the life from our suburban thoroughfares, and it is certain that a greater elasticity in treatment would impart a liveliness and interest at present lacking in their appearance. The reluctance of planning authorities to encourage the use of the discretionary powers of relaxation which they possess is, however, understandable when it is realised that experiments of this nature would be fatal unless placed in competent architectural hands.

It is mainly to the passing of so much of the lesser domestic work into the sphere of speculative building that the dullness of the modern suburban street is due. To what extent this state of affairs could have been avoided by a less aloof attitude on the part of the architectural profession is a matter for interesting and perhaps not altogether profitless speculation.

Whatever our conclusions may be, it must be clear that we await an urban renaissance, a revival of civic architecture, when the architect shall assist the town planner in creating towns which shall impel a desire for citizenship, and which shall counteract the urge for more amenable surroundings, so rarely justified in its results, which is causing so many of our large urban centres to spread untimely and defile virgin country which might otherwise be left undisturbed for cultivation, and quiet enjoyment by the urban dweller. By whatever means (and greater and unremitting attention to domestic design by the architectural schools is surely one of them) the architectural profession must recapture the house building of the nation, for only by a proper union of plan and elevation can town planning, upon which so much wise forethought is being expended, hope to attain the full realisation of its high aspirations.

L. Beaufoy, A.R.I.B.A.

"THE BUILDER" DEBATE

LV.—NORTHERN OR SOUTHERN CONTRACT PRACTICE?

"That the Northern practice of dividing contracts into separate trades is undesirable."

Sir,—We in the South are so used to the single building contract with its various subcontracts that we find it difficult to realise that in the Scottish and Northern areas, where other practice prevails, there is a strong feeling that the making of separate contracts with the various trades is preferable. There is, therefore, an obvious field for debate in this matter, and, as the fundamental conditions of working are much the same North or South of the Tweed, it would appear that one or other must have advantage. Which of these is preferable becomes the subject of our argument.

I have no doubt in my own mind that it is far better to secure single responsibility for a responsible job like building, and there seems no doubt that if there is one man or firm to whom one certifies payment, and to whom one may make complaint and from whom seek redress, the strength of one's position is materially improved. That is really the issue of the Southern system of building contracts, which seems, to my mind, to be undoubtedly superior to any division of bargain.

In a building, the various trades and specialist work are so essentially interdependent that it is indeed difficult in the border-line cases to assess responsibility for faults and delays. Delays in one trade may multiply themselves in the others many times over by throwing the whole programme out of gear, and whereas it may be possible to obtain redress from the original offender for the amount of delay actually committed by him, there seems very little likelihood of being able to claim for the exaggerated delays, very difficult to assess, which have arisen out of the first irregularity.

Where there is a general contractor this matter is simplified, for it is the whole contract that is at stake. There is a time limit for the job which must be observed and which is protected by penalty. But the time limits for a number of trades depend entirely on free access to the works and absence of obstruction from other sources. The advantage of the simpler issues is surely quite obvious.

Again, with the matter of defects. Let us assume a fault develops in the pipework of a heating system. The defect is overlooked and does not become apparent until great damage to the structure has been done. The heating engineer is quite ready to remedy the fault, and to pay reasonable damages, but he may point out that had the defect been reported at its proper time, immediately it showed itself, the damages would be slight, and he repudiates responsibility for the entire damage that has been done. We can imagine such a very genuine mistake. In the case of a single general contract, there is no question of responsibility; it is that of the general contractor to recover, as he may or can, from his sub-contractors. In the case of separate contracts for trades and specialists, the responsibility is really that of the clerk of works, and the remedy dismissal of him as a servant, leaving the cost to be borne by the employer. Here is surely a defect in such a system, the risk of which an architect would be reluctant to offer to his client.

That really is to my mind the essential difference between the systems. In the one case responsibility is directly upon the general foreman to control and co-ordinate the whole job in all its trades and sections, which responsibility financially and in law rests upon the general contractor who tenders with all his risks in mind; while the other rests upon the clerk of works who is the servant of the employer, from whose pockets his mistakes will have to be paid for.

It may be argued that there is no essential difference between the two systems, but that the added responsibility resting upon the contractor has to be paid for by the employer in higher tendering. That is to say, there is a certain risk in any case which is on the one hand paid for by the employer direct, or in the other case borne by the contractor, who assesses its value and adds it to the tender, whether it materialises or not.

I think this is an unsound comparison. The employer is an uninformed layman who knows nothing of building and its risks. He must therefore stand surety for his clerk of works upon an entirely unknown factor. The contractor is by profession an organiser and knows very well what he is up against. If he is thoroughly skilled and efficient he knows how to protect himself against these risks, and, where competition is keen, they will reflect very little in the amount of his tender.

The thing is to make the responsible organiser the man who knows what he is "in for," and not risk the finances of unskilled amateurs, however well they may be backed by a capable clerk of works. I have no hesitation in backing the Southern method of contracting against the Northern.

"Positive."

Silver End Village: A Wooden Porch.

(*See facing page.*)

ILLUSTRATIONS

PLATES

The New Y.W.C.A. Building.

The new headquarters building for the Y.W.C.A. has been erected from the designs of Sir Edwin L. Lutyens, R.A., P.I.A.A.S., on part of the site of the old Meux Brewery behind Tottenham Court-road, its main frontage facing Great Russell-street and its side elevation being towards the Dominion Theatre. The elevations are in the English eighteenth-century tradition, distinctive features being made of the entrances on the two principal frontages, especially that towards Great Russell-street, which has a double staircase approach distinguished by a decorative wrought-iron balustrade. The structure is of steel frame, the elevations generally being of narrow red bricks, and the windows white painted wooden sashes. The building provides a club for business girls, and has ninety bedrooms. The accommodation includes a reception lounge, cafeteria, library, chapel, concert room, gymnasium, swimming bath, etc. The interiors generally are simply finished, but the lounge has a pilaster treatment.

The general contractors were Messrs. James Carmichael (Contractors), Ltd., and the following firms were associated with the work :—Redpath, Brown and Co., Ltd., structural steelwork; S. and E. Collier, Ltd., facing bricks and roofing tiles; Stirling and Johnson, Ltd., roofing; Wm. Salter Edwards and Co., Ltd., asphalt; Caxton Floors, Ltd., fireproof floors; Hollis Bros. and Co., Ltd., wood block floors; Stuart's Granolithic Co., Ltd., granolithic staircase; Express Lift Co., Ltd., lifts; James Carmichael (Contractors), Ltd., joinery; Thos. Elsley, Ltd., general ironmongery and decorative ironwork; Birmingham Guild, Ltd., and Carter and Aynsley, Ltd., decorative ironwork; Richard Crittall and Co., Ltd., heating and hot water supply; Higgins and Griffiths, Ltd., electrical installation; James Adams and Sons, Ltd., door springs.

A Motor Centre for London.

This building, which is shortly to be erected in the West End, is to serve as a central motor centre. It will be possible to drive cars from the street to the top of the building, and an exterior roadway 20 ft. wide is formed all round the outside of the building on every floor, providing altogether more than a mile of roadway. The floor area of the building will accommodate 5,000 cars, and will be more than three times the area of the large hall at Olympia. At attempt has been made to suggest in the design of the building the life and movement of the motor world. No attempt has been made to make the building look "original" or "modern"; the aim has been to express the actual service it gives.

Messrs. Elcock and Sutcliffe, FF.R.I.B.A., are the architects.

A Cathedral Church, Oban.

This Roman Catholic Cathedral Church of St. Columba, at Oban, is to be constructed in granite of warm grey colour, with a touch of pink in it, the roof being covered with brown slates. Internally, the walls are in rough local stone, whitewashed. The columns of the arcade and the dressings of the windows are of the granite. The roof inside is of open oak timber construction. The floors are covered in large squares of red and white stone. Heating is on the floor-heating system, augmented by a few radiators. Only a portion of the east end is being built at present. Messrs. D. and J. MacDougall, of Drinvargil, are the builders, and Sir Giles Gilbert Scott, R.A., F.R.I.B.A., is the architect.

Cottage Designs.

In our issue for September 9 we gave a special selection of non-premiated designs submitted in the English Cottage Competition organised by the Incorporated Association of Architects and Surveyors. We give this week a second selection of designs.

THE TRADES UNION CONGRESS

ANY notice of the proceedings of the Trades Union Congress in a journal such as ours, which expresses no political opinions, becomes more difficult year by year, because the close alliance between the Congress and the Socialist Government lately in office tinctures most resolutions of Congress with a political flavour. Mr. Lansbury, who held office in the last Government and who attended the Congress as a "fraternal delegate," is reported as frankly declaring that the National Labour Party was the child of the Trade Union Congress, but if that be the case that child has since grown up into the Socialist Party, which has held office now on two occasions, but still retains close connections with its parent, so that it is impossible entirely to eliminate the political element in discussing the resolutions moved at Congress.

Mr. Henderson, after a statesmanlike statement of his views on the Disarmament Conference, when speaking on other matters is reported as saying that the fundamental aim of the labour movement was to transform capitalist society into a great Socialist commonwealth, and that that was not a narrow, intellectual creed, but a living faith, but he said that they sought to accomplish that great transformation by the Parliamentary method, which they believed to be preferable to violent upheavals.

With these brief preliminary observations, we turn to the proceedings at the Congress. As regards tariffs the Report of the General Council, which was drawn in terms statesmanlike in their character, recommending that the position must be watched, as no general principle could be laid down, but each case must be dealt with on its merits, in every case attempt being made to find where the net advantage will result for the whole community, was affirmed by a large majority, a motion to refer the Report back being defeated on a card vote by 2,125,000 votes to 934,000.

We have always felt that Trade Unionists, as strict protectionists of home labour, were in a difficult position as to protection, for with strict protection here of wage rates an open foreign market was inconsistent and must result in the loss of international trade. The Trade Union ideal is not tariffs, but international agreements, a view which, we believe, would be gladly accepted by the present Government, but that is a policy which has so far proved difficult to attain.

A resolution was carried, demanding the immediate abolition of the means test in connection with Unemployment Insurance, and affirming support of the scheme of the Council presented to the Royal Commission, based on proportionate sacrifice from every member of the community. We confess we cannot quite appreciate the attitude of the Trade Unions towards this question. They are accustomed to administer and control very ably their own sickness and disablement funds with stringent supervision to avoid any malingering, and they must appreciate the difference between persons who contribute to unemployment on an actuarial basis of insurance and those in receipt of extended benefit quite outside the Insurance Scheme. The truly insured worker has a direct interest in keeping solvent the insurance scheme proper, and the whole future of Unemployment Insurance depends upon it. No means test is enforced as against the insured person, but those paying no contribution are in an entirely different position, and it is to the interest of the insured as well as of the community that the fund devoted to them should be administered with proper safeguards. As for the latter part of the resolution, the community by rates and taxes is paying its proportion.

Another paragraph in the same resolution protested against any reduction in the amount of the benefit or alteration in the conditions under which it was received. This was based on the principle of "work or maintenance," but here, again, the fact appears to have been lost sight of that while the actual worker is subjected to a decrease in wages it surely would be extraordinary if the unemployed remained unaffected.

Two other resolutions were carried involving some points easily the subject of different opinions. The first drew attention to the undesirability of holding up building programmes, whilst the second after calling upon the Government to secure in the international field the abolition of war debts and reparations, and advising the examination of other international debts and the lowering of trade barriers, recommended the planning of large-scale developments such as housing schemes, slum clearance, and other public works, which will provide long-term employment and improving purchasing power for persons now unemployed; also the public control of banking, and other monopolistic industries, and the taxation of land values. If Congress had discussed duly this composite resolution, it might have been sitting for some months.

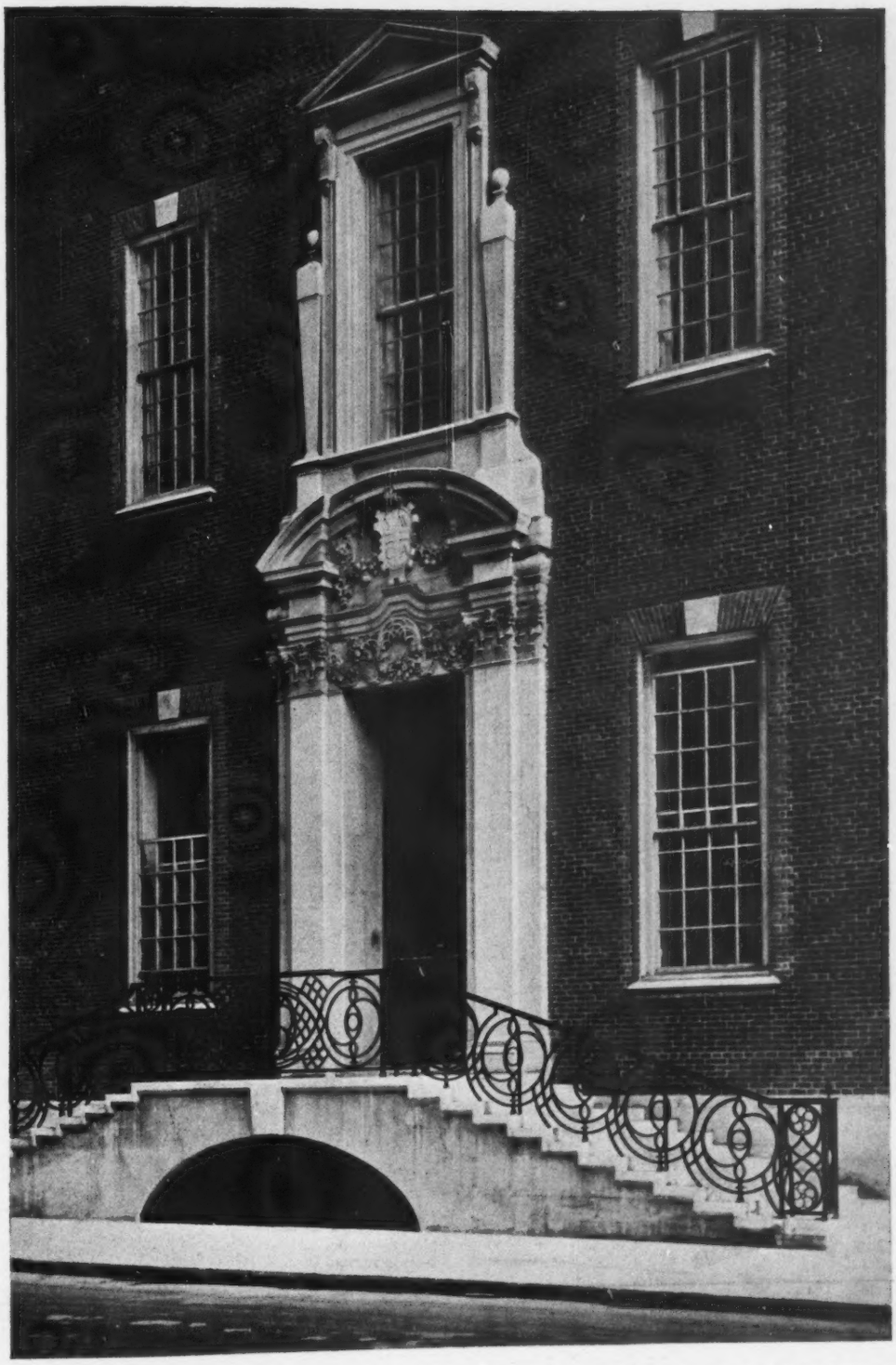
A resolution, moved by Miss Bondfield, urging the Council to press forward internationally to secure a legal 40-hour week was carried, but Mr. Bevin suggested that a first step would be to enforce the observance of a strict 8-hour day, and he pointed out that overtime was becoming more valuable than wages.

At the present moment we are unable to discuss the General Council's report on the public control and regulation of industry and trade. A motion to refer it back was withdrawn on the understanding that the report should remain merely as a statement, until the unions had had time to consider it. Mr. Cramp, who replied on the resolution for the General Council, is reported as saying he did not believe industry could be adequately dealt with by leaving it in the hands of party politicians, and so far as the participation of workers in directorates was concerned, there was a great danger of discrediting the whole idea of workers' representation. The better way was for trade unionists to fight inside their unions.

We are glad to close this brief notice of some of the proceedings of Congress by recording that a resolution which protested against the continuation of the "Mond policy" was defeated by an enormous majority.

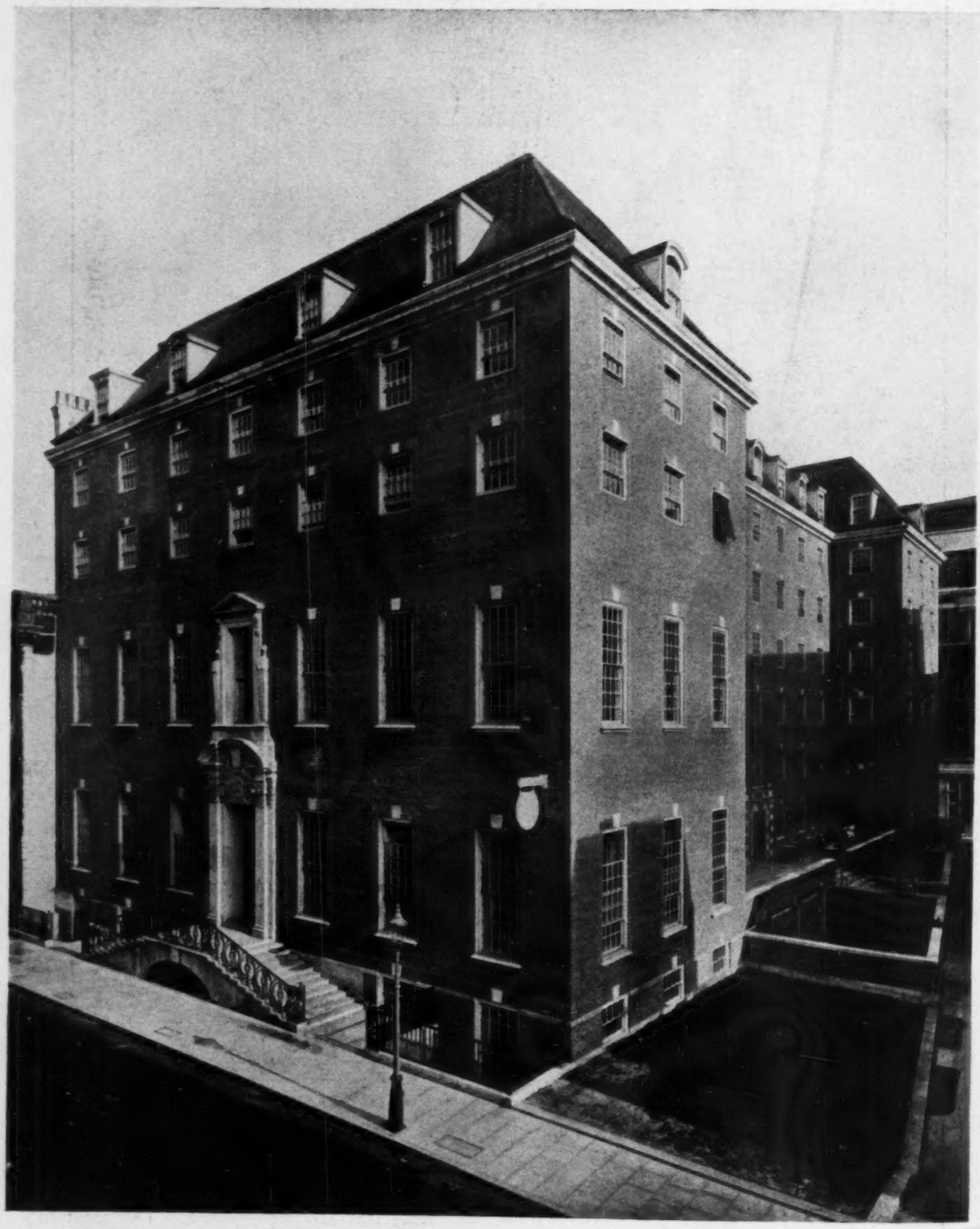
Northern Polytechnic School of Architecture.

The Northern Polytechnic School of Architecture is "recognised" by the Royal Institute of British Architects. Students who complete satisfactorily the three years' course of study in the day school or the five years' course in the evening school and pass the school examinations are exempted from the Intermediate Examination of the Royal Institute of British Architects. Part-time and evening training is also provided for those who have passed the Intermediate Examination and are preparing for the Final Examination for Associateship R.I.B.A. Students desiring to take a special subject or a group of subjects may be admitted. The teaching staff consists of qualified practising architects, assisted by specialists in building science, acoustics, structural engineering, heating, ventilating and other subjects relating to architectural practice. The department with which the school is associated also provides training for all branches of the building industry, and architectural students are thereby offered excellent opportunities of studying in the workshops and laboratories the many practical processes which they will ultimately be required to supervise. The school contains well-equipped studios, lecture rooms, building science laboratories and machinery for the testing of building materials. The curriculum is arranged to provide the fullest possible training, and every aspect of architectural practice is dealt with by means of lectures, demonstrations, visits to buildings in course of erection and studio work. The term opened on September 19, the Head of the Department of Architecture being Mr. T. E. Scott, F.R.I.B.A. A copy of the prospectus is obtainable from the Secretary, Holloway-road, N.7.



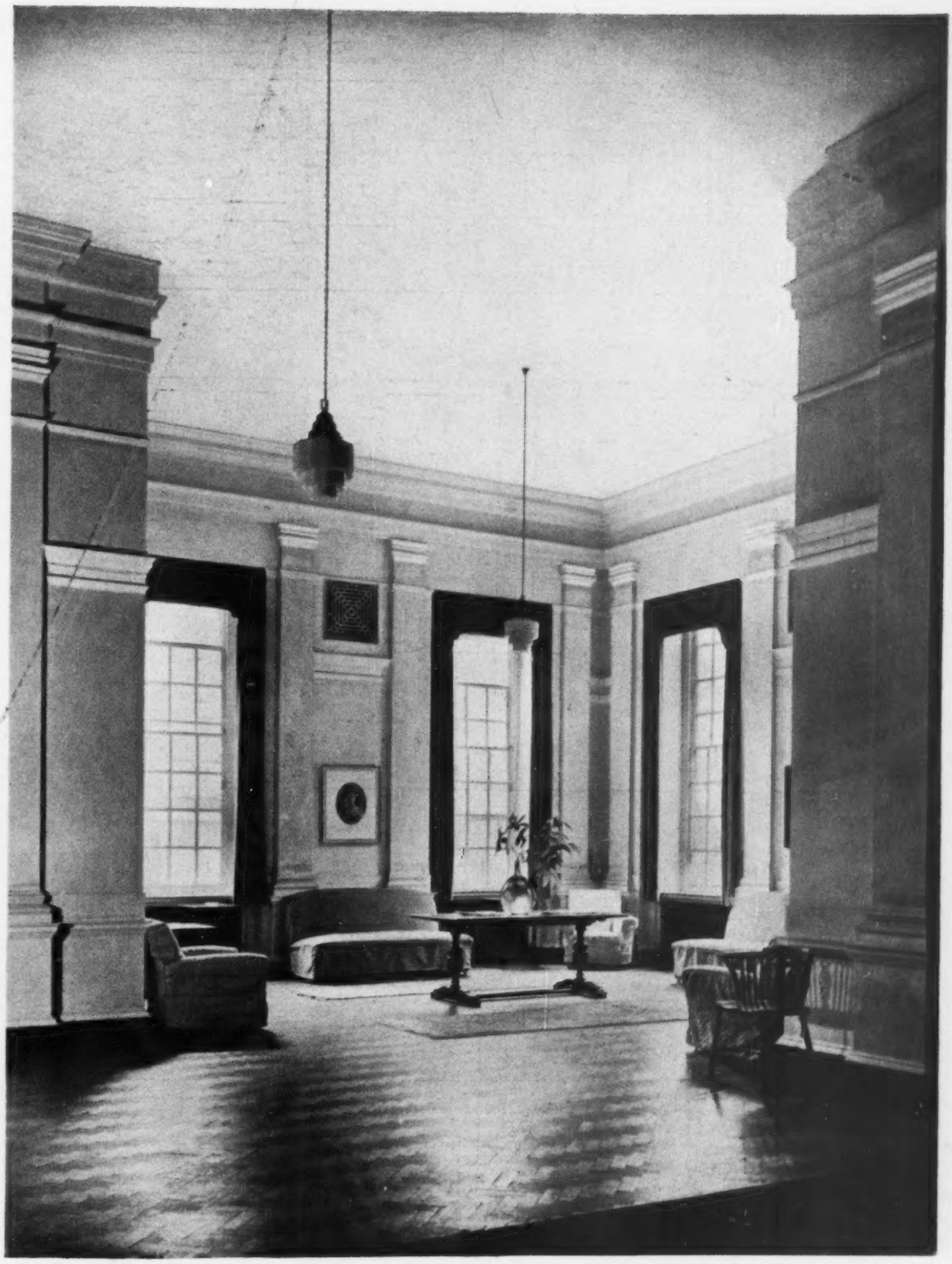
New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C. : Detail of Main Entrance.

SIR EDWIN L. LUTYENS, R.A., P.I.A.A.S., Architect.



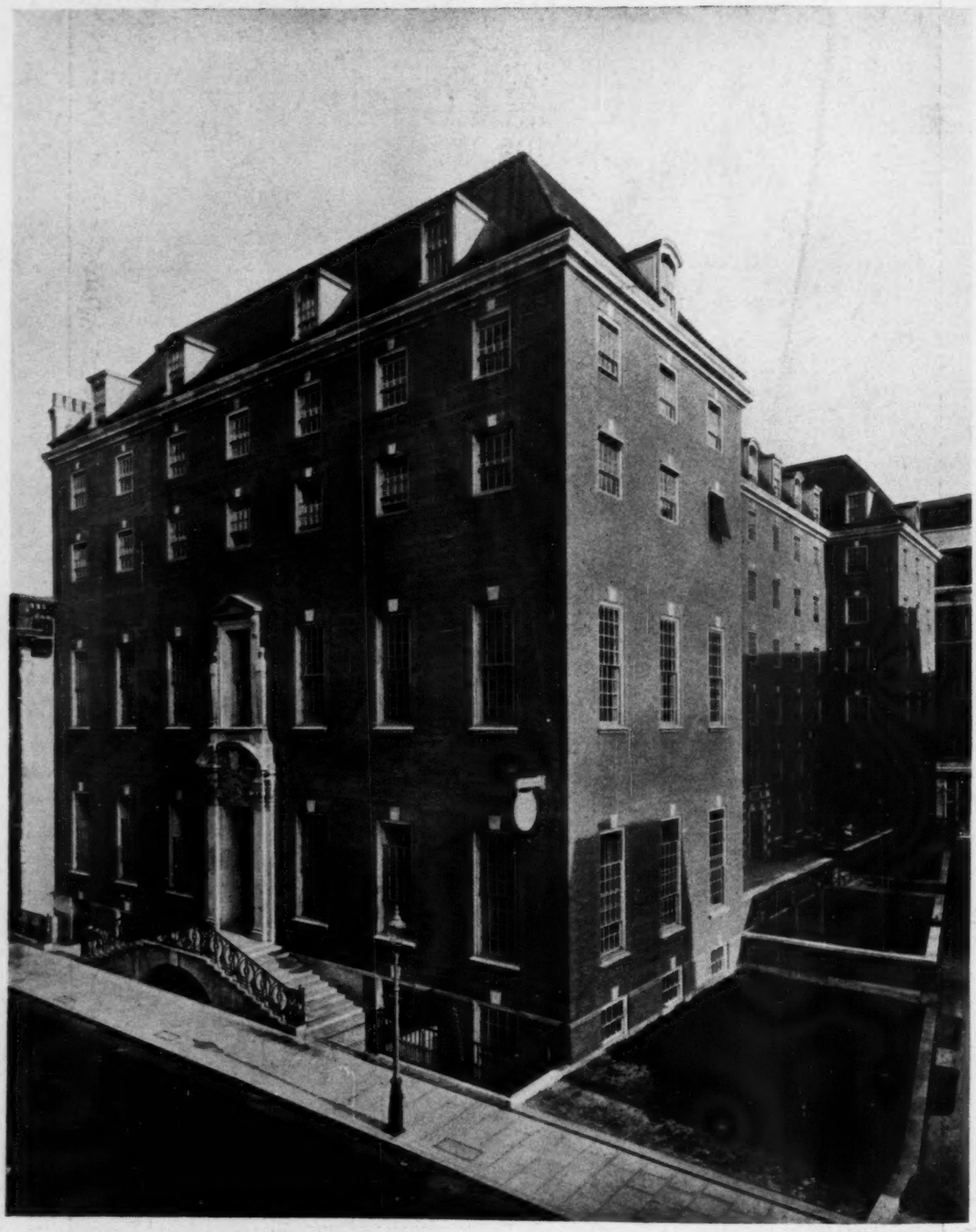
New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C. : General View.

Sir Edwin L. Lutyens, R.A., P.I.A.A.S., Architect.



New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C. : The Lounge.

SIR EDWIN L. LUTYENS, R.A., P.I.A.A.S., Architect.

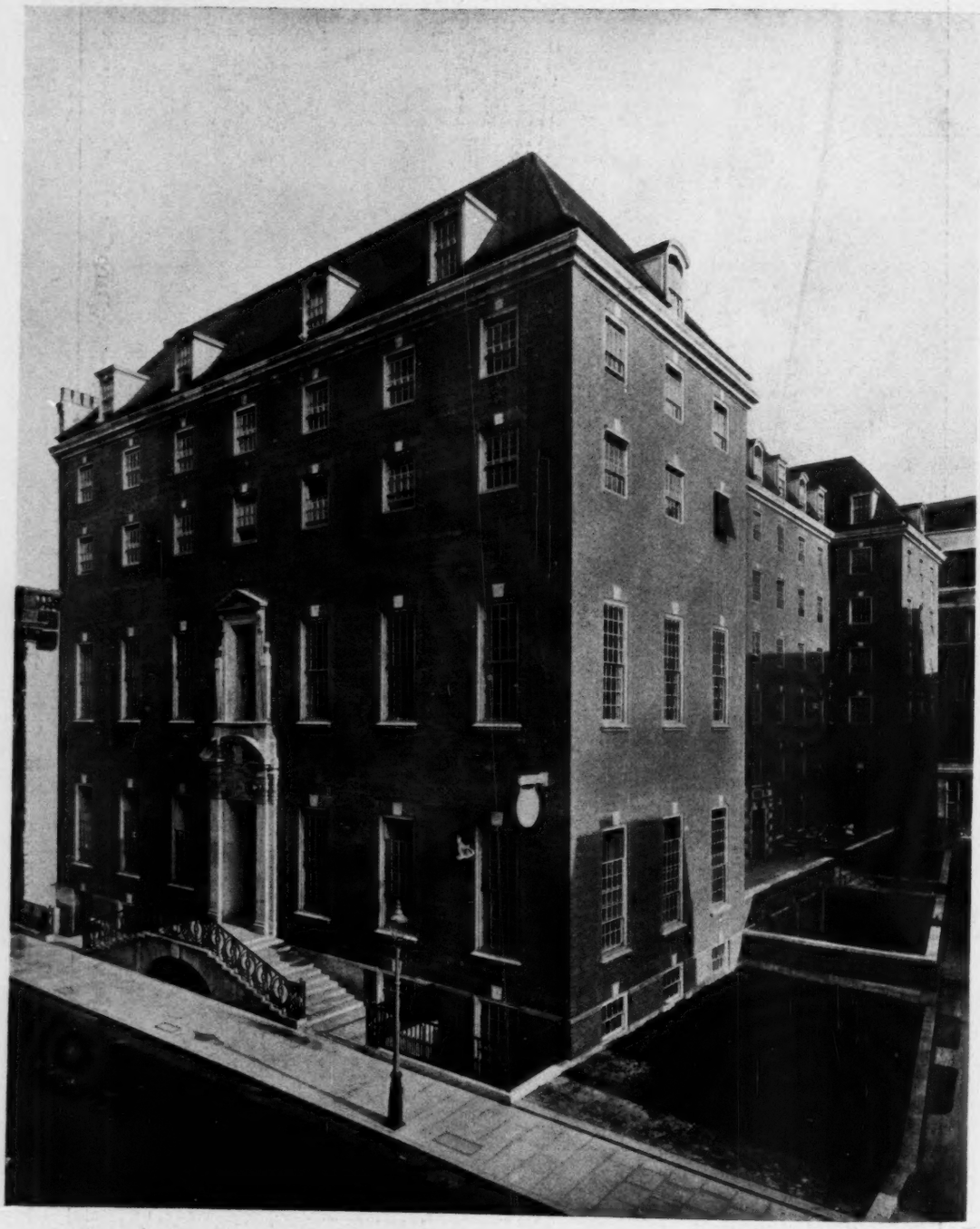


New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C. : General View.

SIR EDWIN L. LUTYENS, R.A., P.I.A.A.S., Architect.

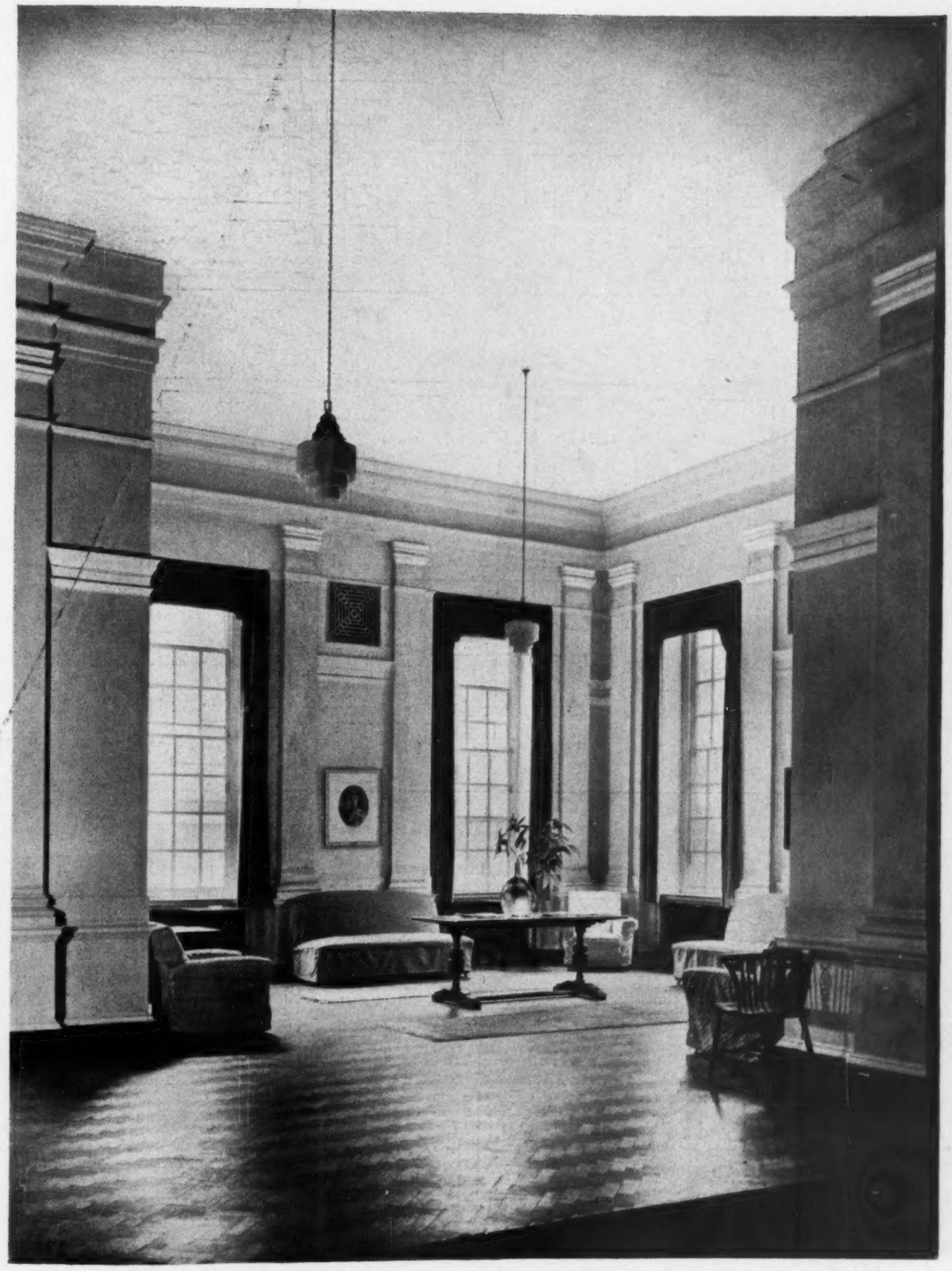
New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C. : The Lounge.

SIR EDWIN L. LUTYENS, R.A., P.I.A.A.S., Architect.



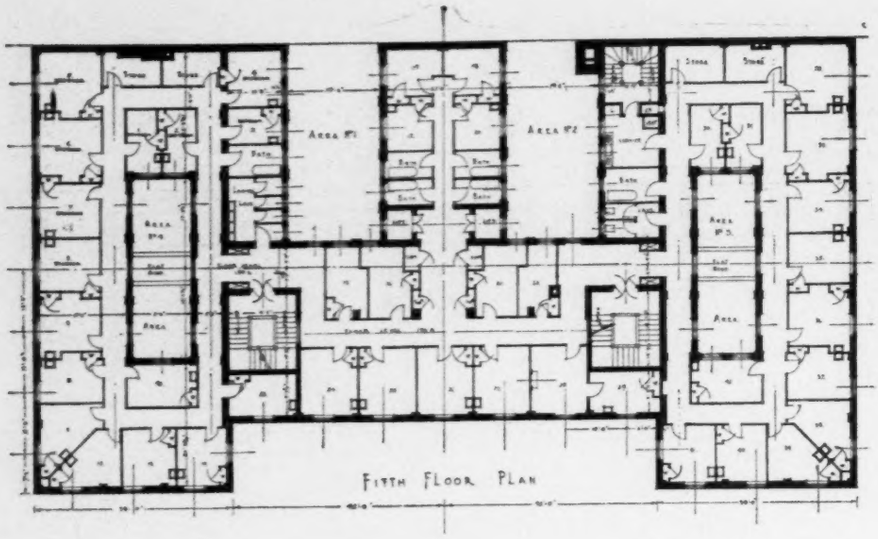
New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C. : General View.

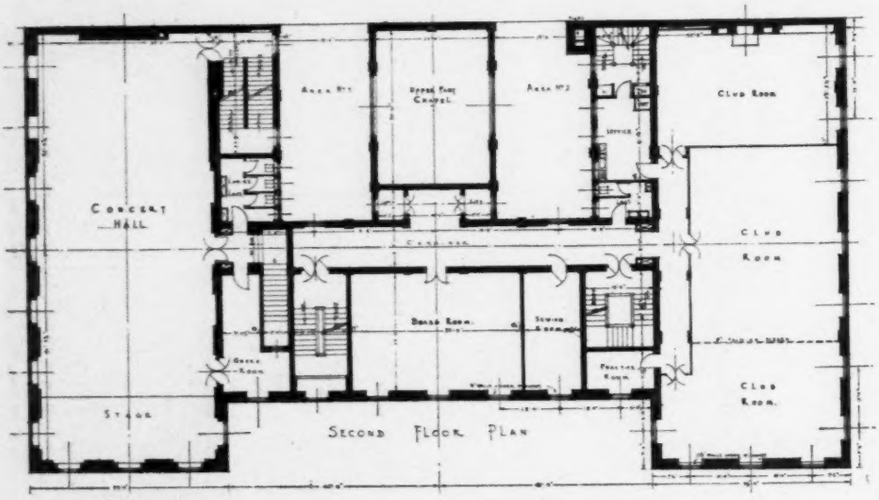
Sir Edwin L. Lutyens, R.A., P.I.A.A.S., Architect.

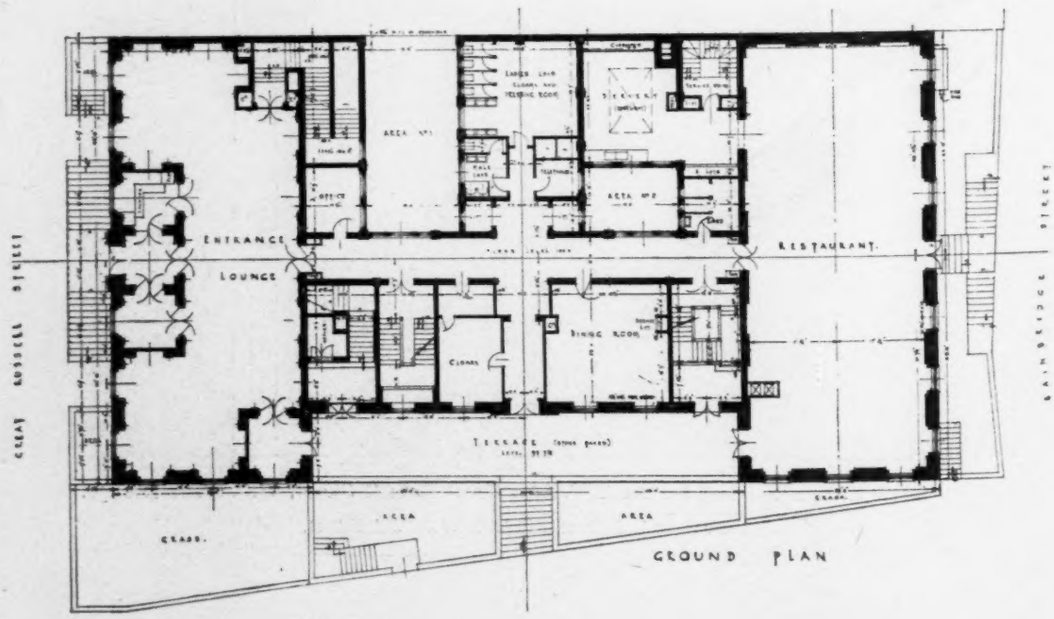


New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C.: The Lounge.

SIR EDWIN L. LUTYENS, R.A., P.I.A.A.S., Architect.

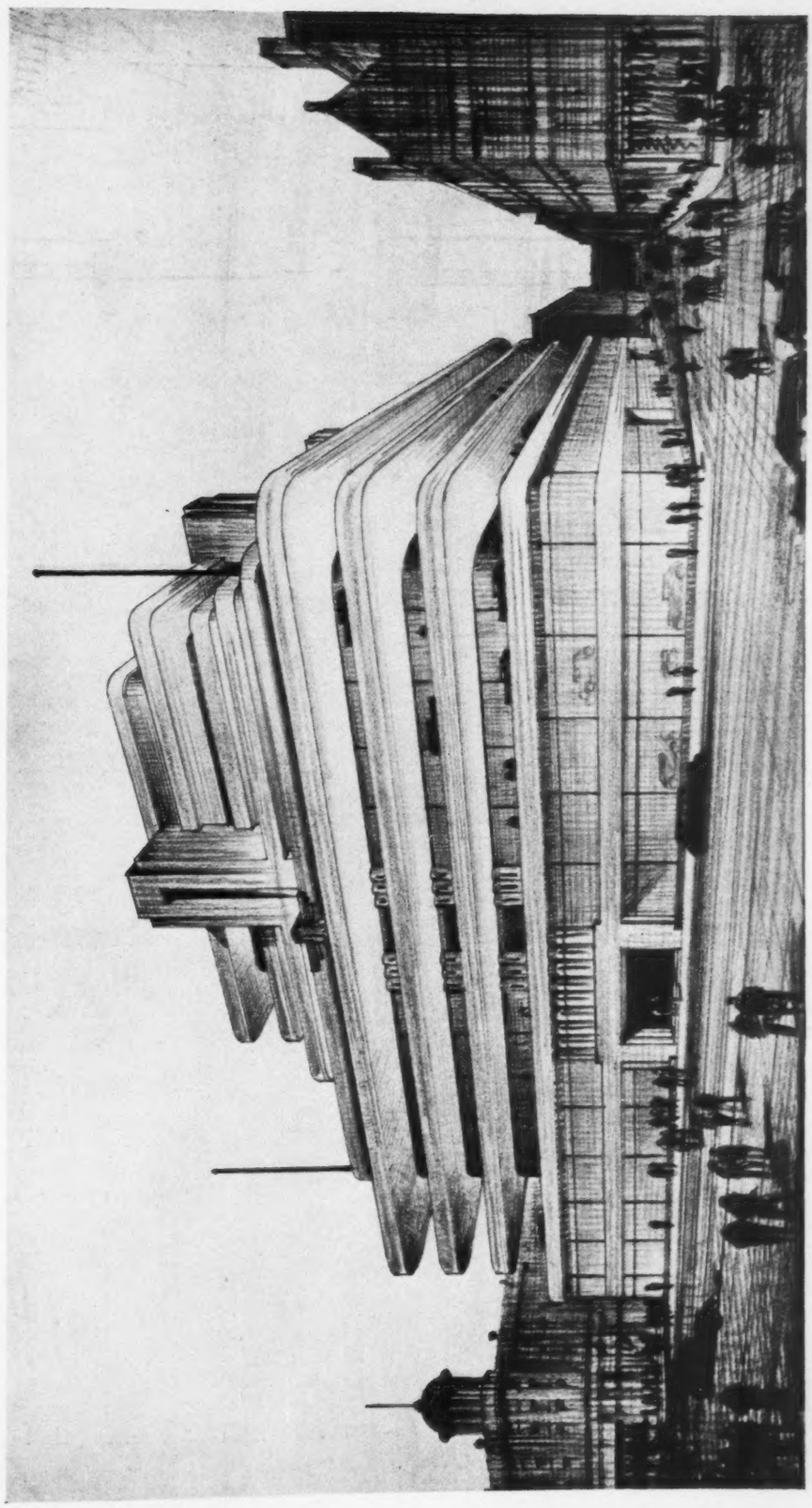






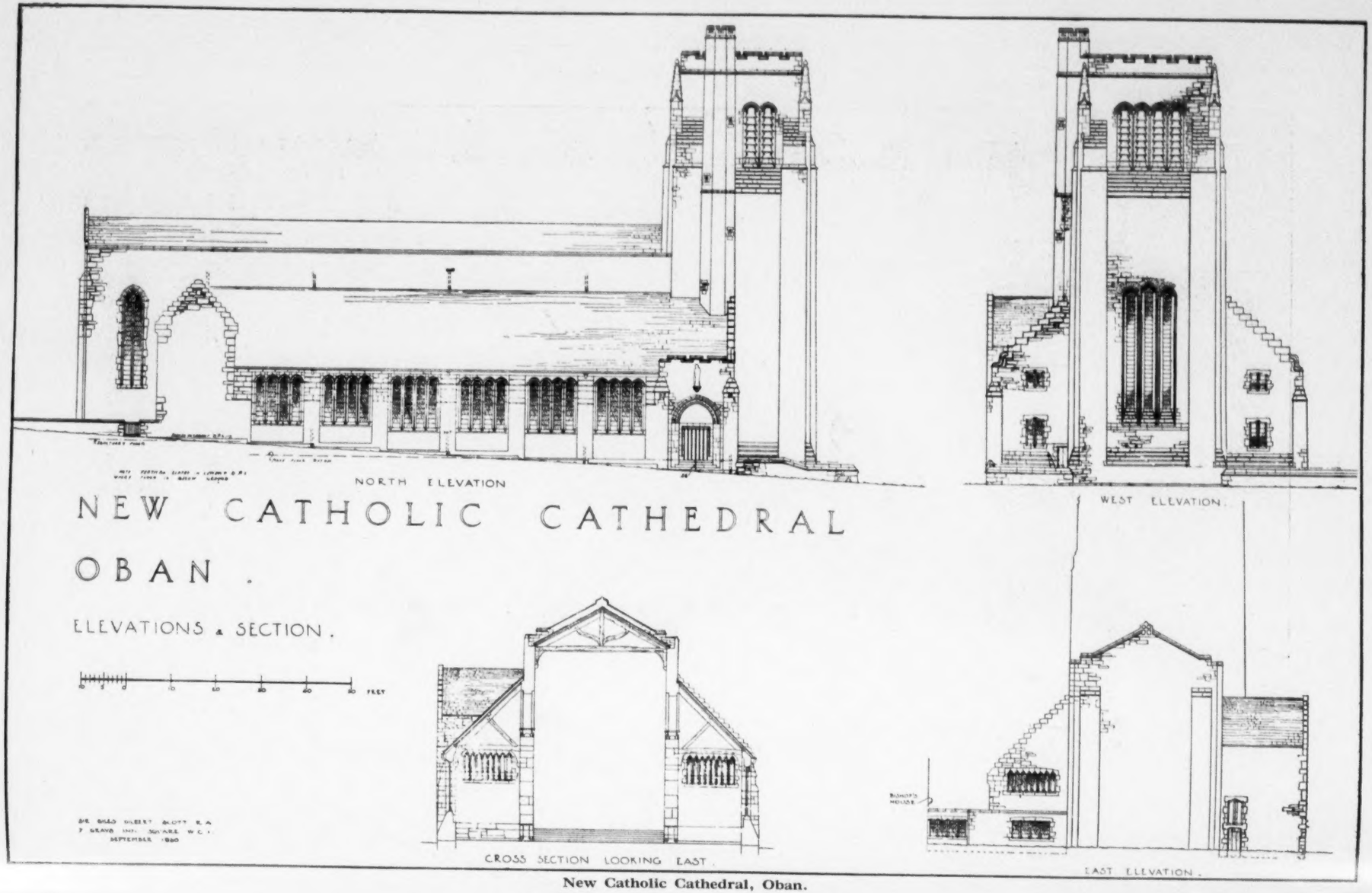
New Headquarters Building for the Y.W.C.A., Great Russell Street, W.C.

SIR EDWIN L. LUTYENS, R.A., P.I.A.A.S., Architect.



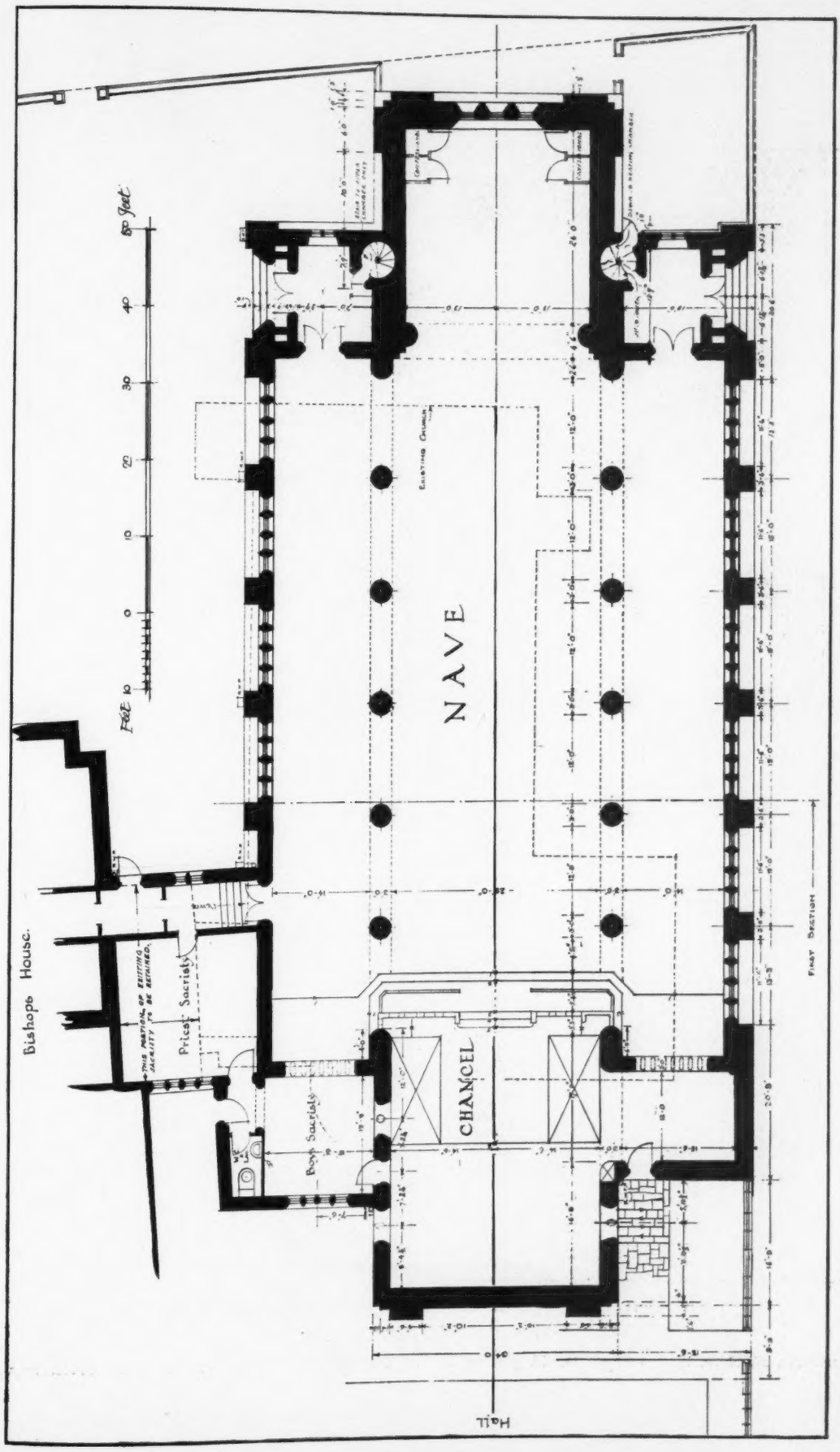
Proposed Motor Centre for London.

MESSRS. ELCOCK AND SUTCLIFFE, FF.R.I.B.A., Architects.



New Catholic Cathedral, Oban.

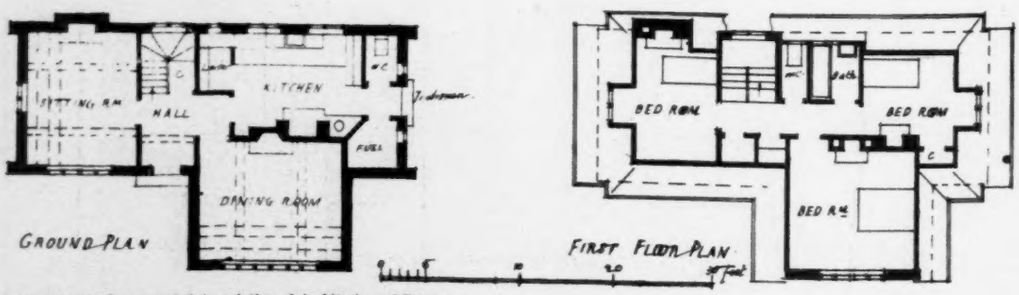
SIR GILES SCOTT, R.A., F.R.I.B.A., Architect.



New Catholic Cathedral, Oban.

SIR GILES SCOTT, R.A., F.R.I.B.A., Architect.

Entrance Front.

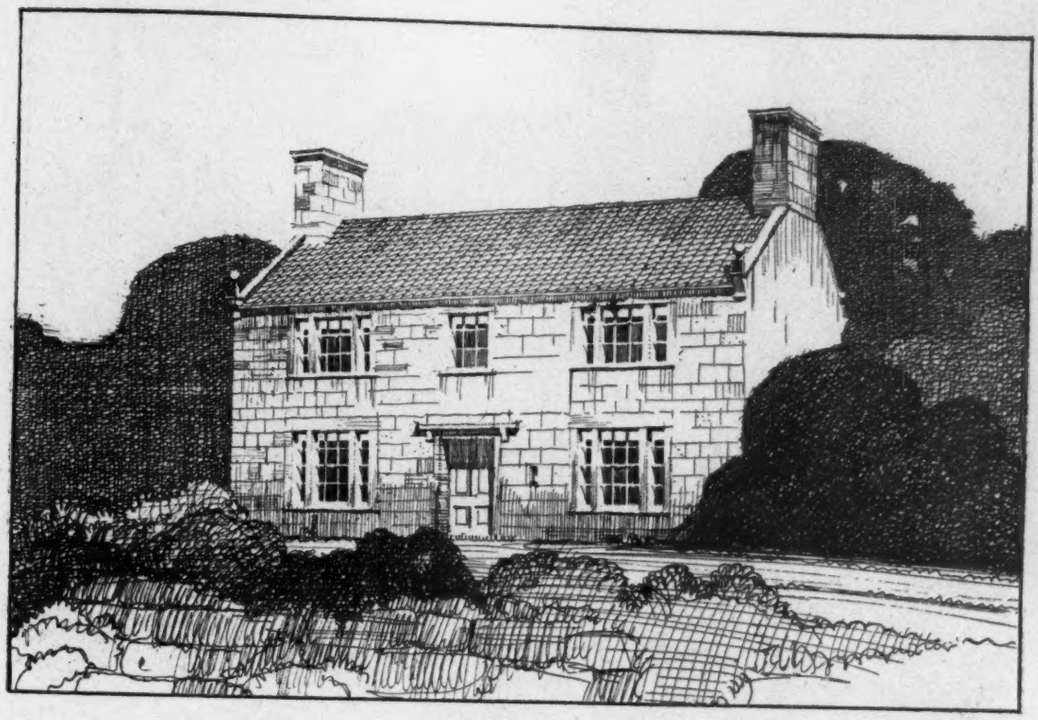


Organised by the Incorporated Association of Architects and Surveyors.

Design submitted in the English Cottage Competition.

By Mr. C. F. W. Dening, F.R.I.B.A.

Cubic contents, 17,001 cu. ft. Cost, at 1s. 4d. per cu. ft., £1,195. (Sussex. Hollow walls, cement rendering and tiles.)



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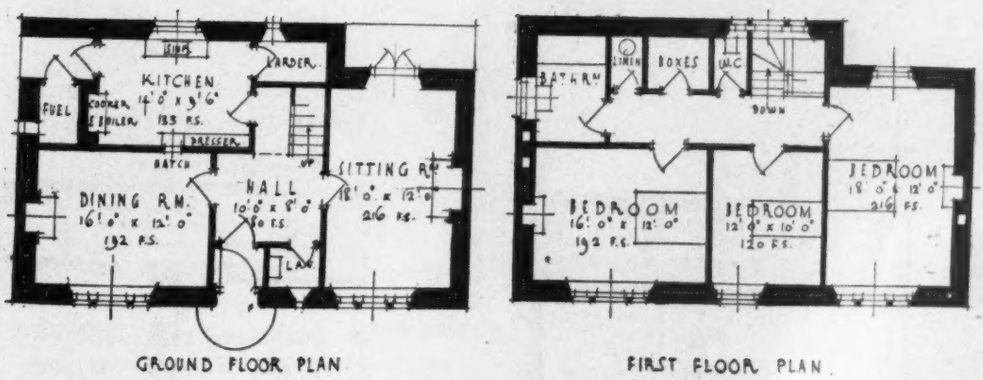


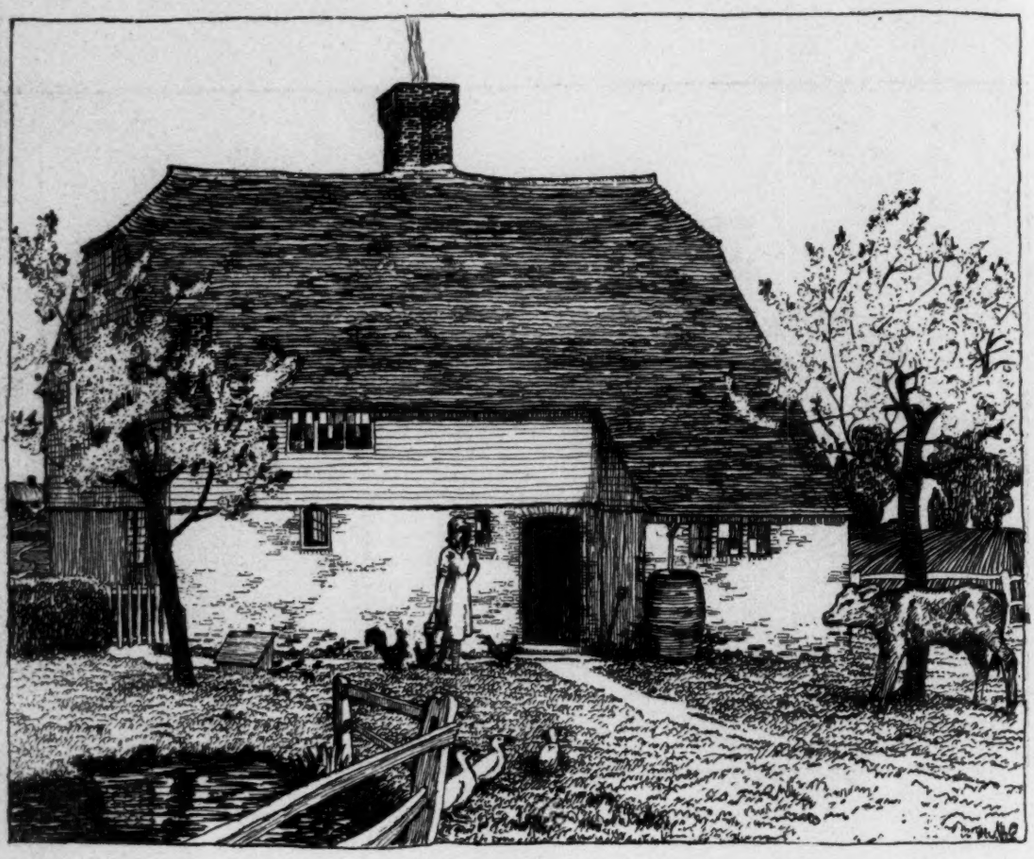
GROUND FLOOR PLAN FIRST FLOOR PLAN.

Organised by the Incorporated Association of Architects and Surveyors.

Design submitted in the English Cottage Competition.

BY MR. D. H. MCMORRAN, A.R.I.B.A.

Cubic contents, 22,217 cu. ft. Cost, at 1s. 1d. per cu. ft., £1,200. (Yorkshire or Derbyshire. Dressed sandstone and pantiles.)



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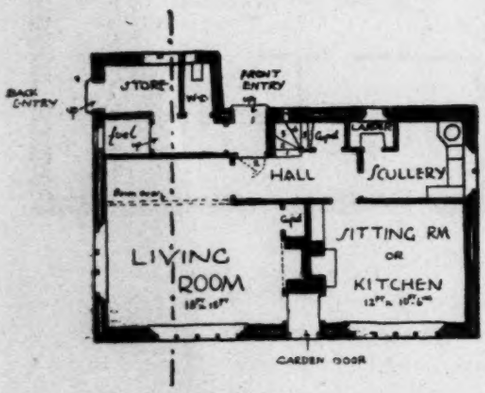
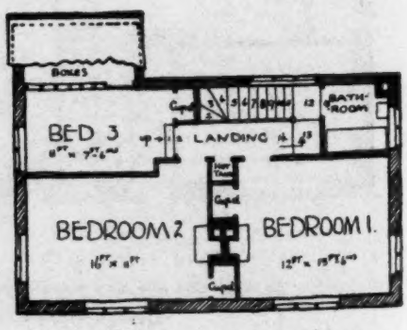


GROUND FLOOR PLAN



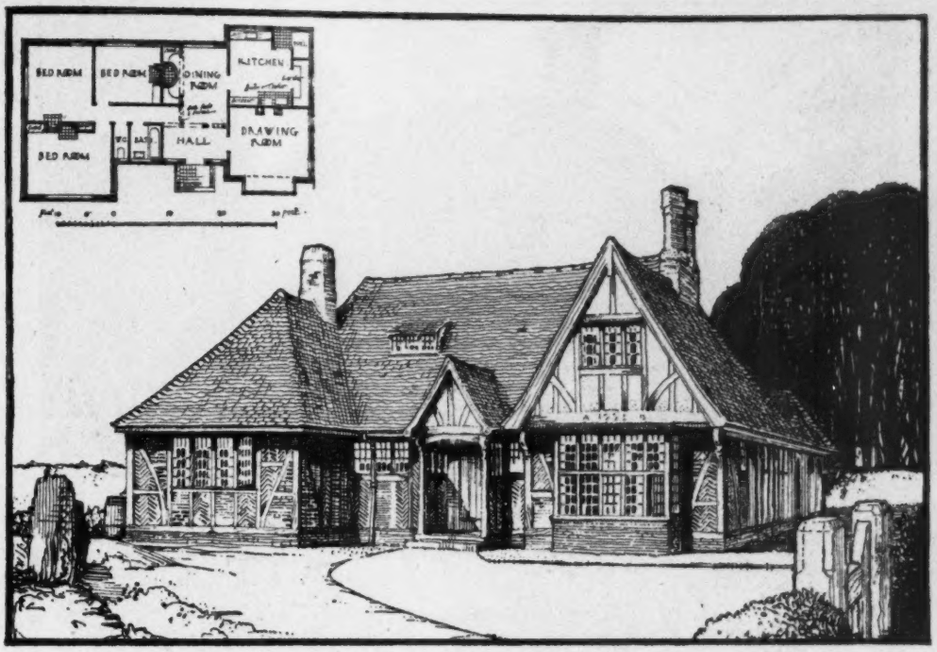
FIRST FLOOR PLAN

Organised by the Incorporated Association of Architects and Surveyors.

Design submitted in the English Cottage Competition.

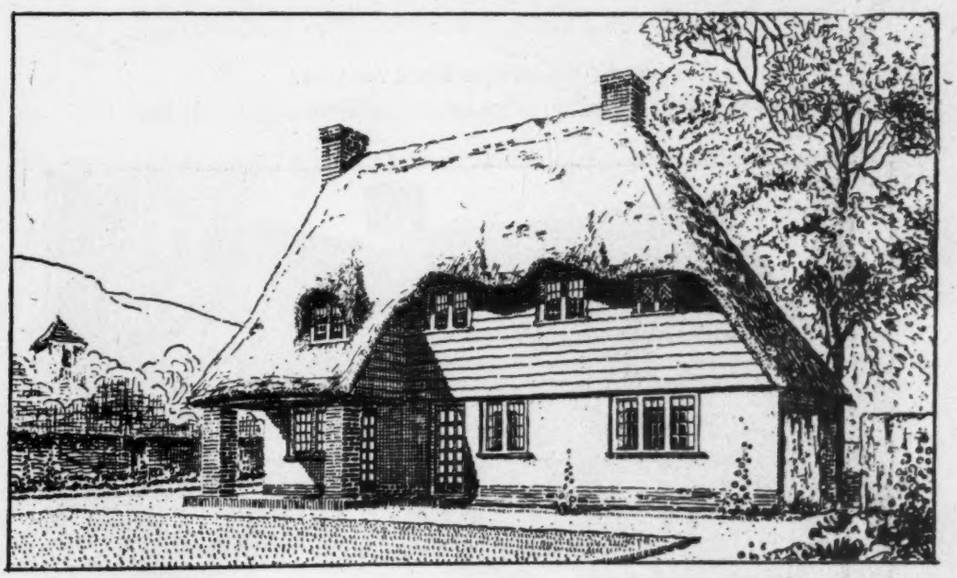
By Mr. Allen Chandler.

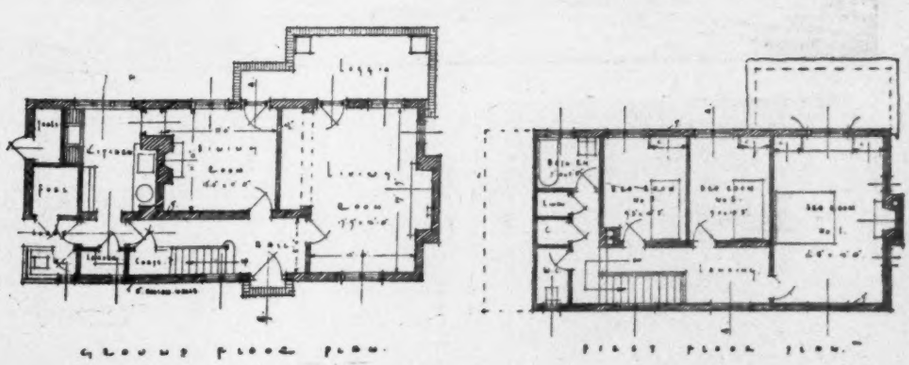
Approximate cost, £600. Brick, timber framing and tile. (Essex or Kent.)



By Mr. Charles R. Brown.

Cubic contents, 20,745 cu. ft. Cost, at 1s. 1½d. per cu. ft., £1,191. (Essex and Suffolk border. Brick, brick nogging, half-timber and tile.)

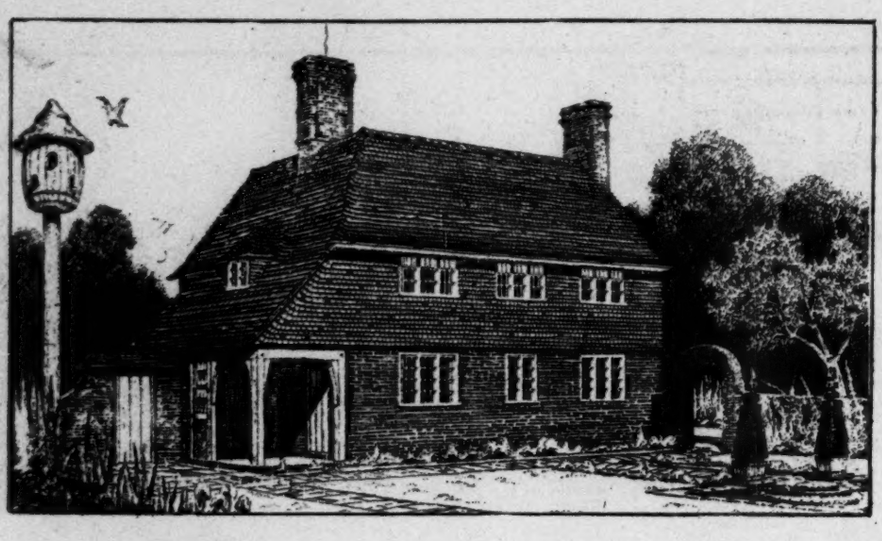


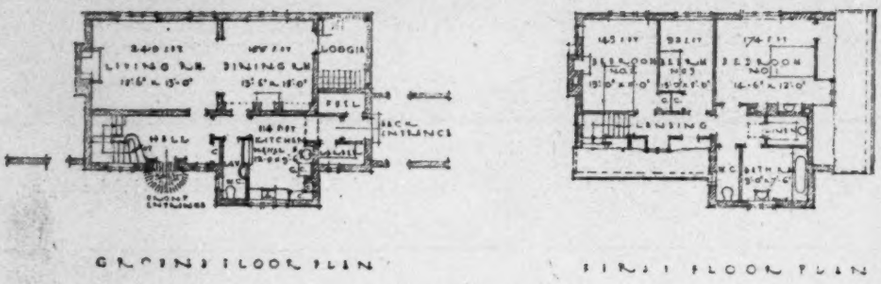


Organised by the Incorporated Association of Architects and Surveyors.

By Mr. C. P. McLaughlan.

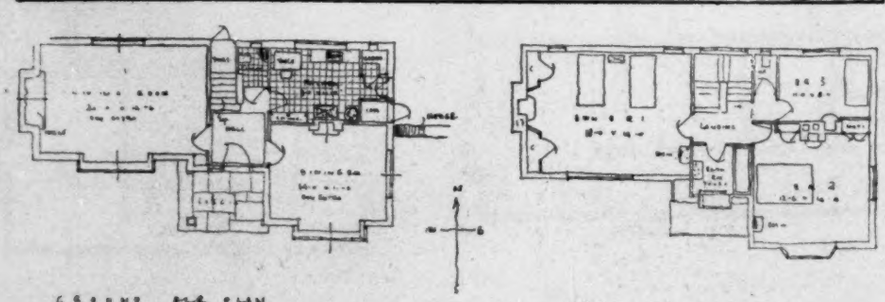
Designs submitted in the English Cottage Competition.





By Mr. Gerald C. P. Gough, A.R.I.B.A.

(Cost, at 1s. 2d. per cu. ft., £1,193. (Mid-Kent. Brick, tile hanging and tile.)

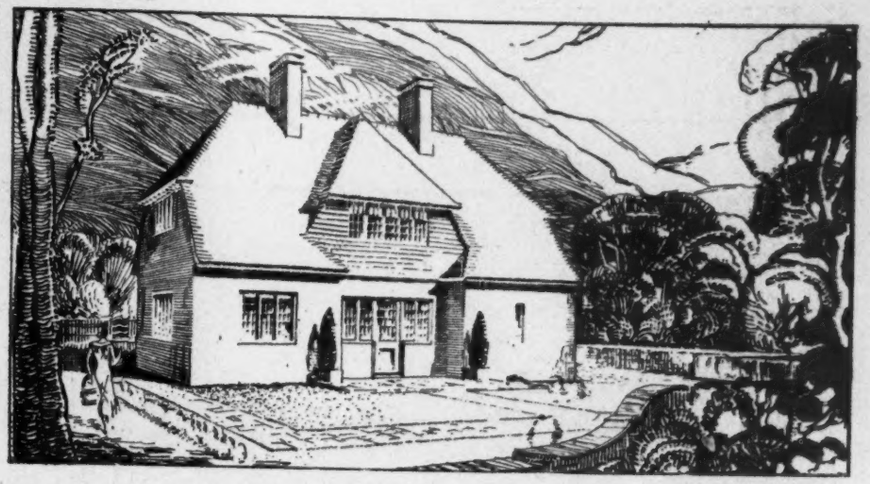


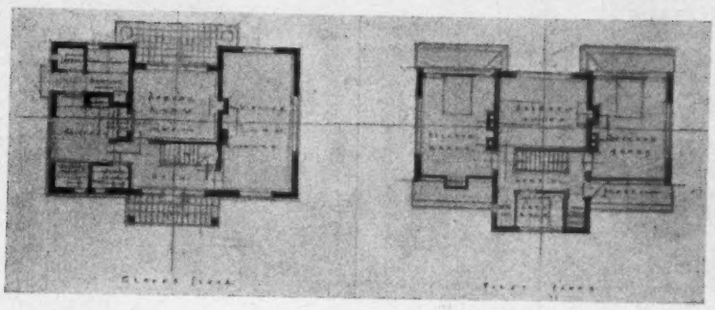
Organised by the Incorporated Association of Architects and Surveyors.

By Mr. Hugh Eades.

Designs submitted in the English Cottage Competition.

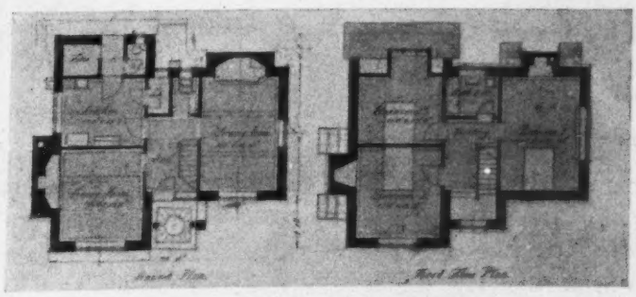
Cubic contents, 17,962 cu. ft. Cost, at 1s. 3d. per cu. ft., £1,125. (Surrey. Half-timber and plaster, tile hanging and tile.)





By Mr. A. Maxwell Allen, A.R.I.B.A.

Cost, at 1s. 2d. per cu. ft., £1,200. (Kent, Surrey or Sussex. Brick and tile.)



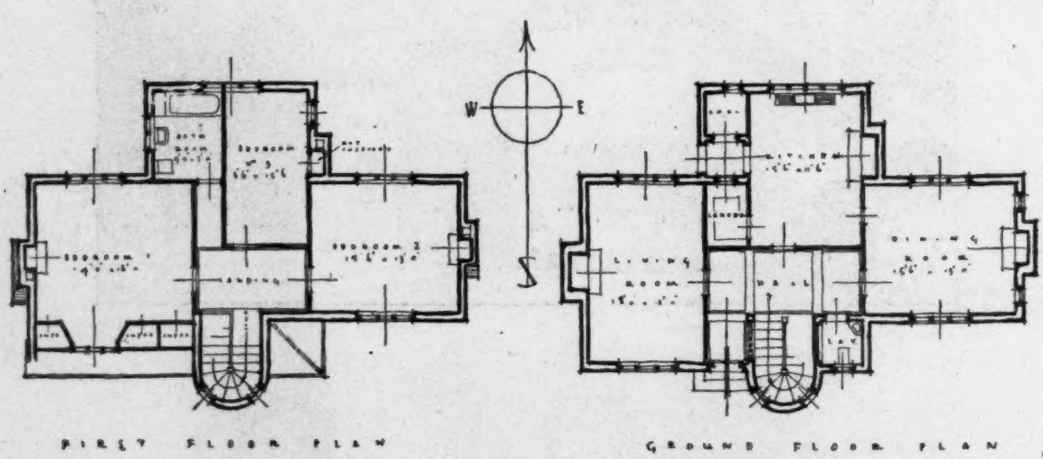
Organised by the Incorporated Association of Architects and Surveyors.

By Mr. F. Kennerell Pope, A.R.I.B.A.

Designs submitted in the English Cottage Competition.

Cubic contents, 20,400 cu. ft. Cost, at 1s. 2d. per cu. ft., £1,190. (Somerset. Brick, roughcast and lime-whitened, and straw thatch.)

Entrance Front.

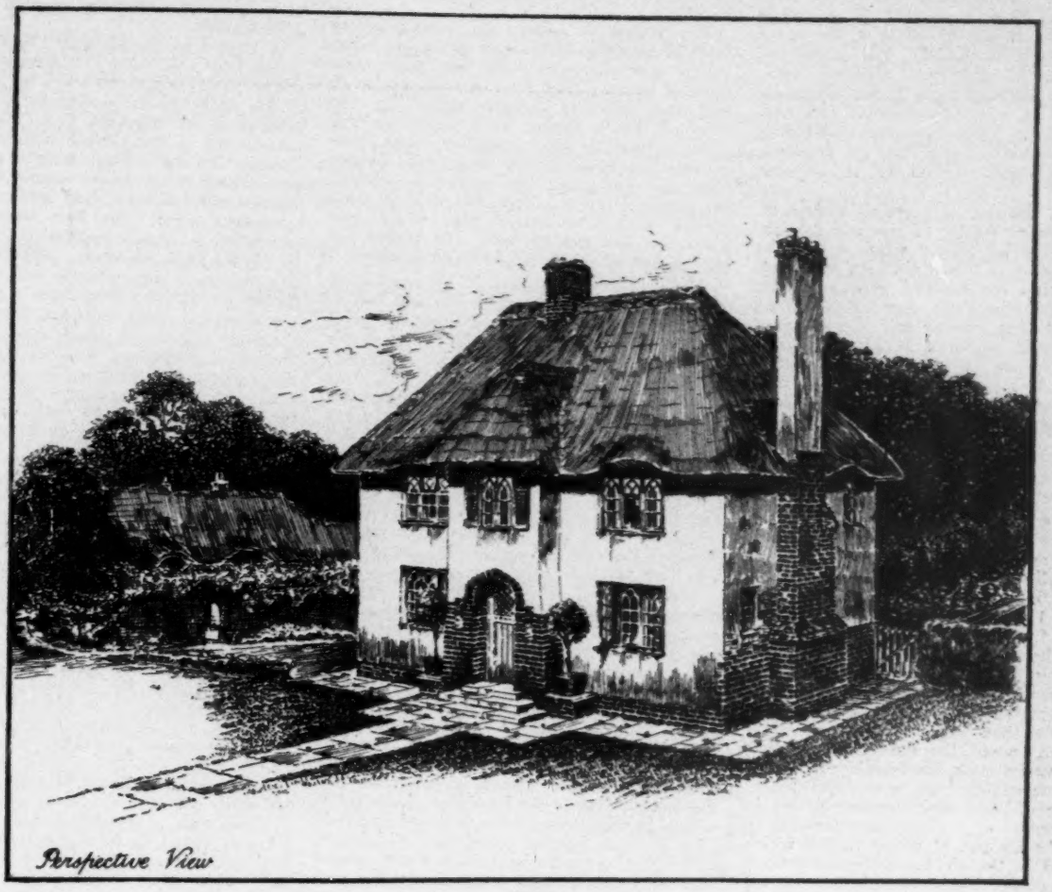


Organised by the Incorporated Association of Architects and Surveyors.

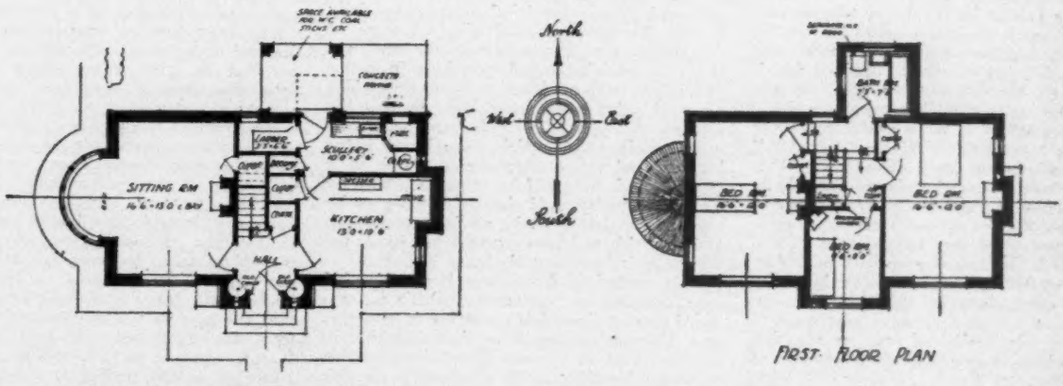
Design submitted in the English Cottage Competition

By Messrs. S. N Cooke and Edward Holman.

Cubic contents, 22,800 cu. ft. Cost, at 1s. per cu. ft., £1,140. (Bucks, Warwick, or Worcester. Brick and tile.)



ENTRANCE FRONT.



GROUND FLOOR PLAN FIRST FLOOR PLAN

Organised by the Incorporated Association of Architects and Surveyors.

Design submitted in the English Cottage Competition.

BY MR. J. D. HOSSACK, A.R.I.B.A.

Cubic contents, 17,872 cu. ft. Cost, at 1s. 3d. per cu. ft., £1,117. (Aylesbury. Brick rendering and thatch.)

MOISTURE AND MATERIALS.—I

In view of the great variation from time to time of the atmospheric conditions with regard to moisture, it is well to remember precautions which are advisable in the use of certain building materials. The extent to which changes of size, form, strength, durability and appearance occur is not commonly realised, but it is an unfortunate fact that almost all of the usual materials in building work are affected more or less by moisture, either by chemical action or in physical properties.

Under the heading of chemical change we have the familiar rusting of iron and tarnishing of many other metals when exposed to the rain or even to moist air. No one needs reminding that cement and gypsum plaster must be stored where rain does not penetrate, but the fact that rusting and tarnishing of bright metallic surfaces take place in a moist atmosphere quite apart from actual rain should help us to remember that these substances greedily take up moisture from the air, and the more so when the air is saturated. From experiments which have been conducted by Professor Duff Abrams in America, considerable reduction in the strength of cement has been found due to storage in ordinary packages in air in the usual cement shed. Thus, taking the strength at delivery as 100, the strength—

after 3 months storage was		80
,, 6	,, ,,	72
,, 1 year	,, ,,	60
,, 2 years	,, ,,	46

This is due to the moisture in the atmosphere being taken up by the cement. It was further found that some recovery in strength occurred; hence the rate of maturing is slower than with fresh cement.

As is well known, the amount of moisture in the air varies quite considerably from day to day, but, contrary to a common belief, there is often more moisture in the air in the hot weather of summer than there is in winter. The amount of water vapour which can be held in the air depends greatly upon the temperature. Thus, 1 cubic foot of air at 40 deg. F. can hold 2.9 grains of water; at 60 deg. F. the same amount of air would be able to hold just twice this amount, *i.e.*, 5.8 grains, while at 80 deg. F. the amount would be nearly doubled again—each cubic foot would require 10.4 grains of water to saturate it. The mist which frequently occurs in the evening is, of course, due to the cooling of air which is at or near saturation point being unable at the lower temperature to hold as much moisture as it did at the higher temperature of the afternoon and hence depositing it as minute droplets which are so small that they do not fall to the earth in the same way that raindrops do.

A measure which is more useful for many purposes is termed the "relative humidity," and is usually given as a percentage. This expresses the amount of moisture actually in the atmosphere as a percentage of the amount of moisture which it can contain if completely saturated at that temperature. Thus, if there are 5.2 grains of water per cubic foot in the air at 80 deg. F., the relative humidity is 50 per cent., because at 80 deg. F. one cubic foot of air can contain a maximum of 10.4 grains. In the usual way we say that the atmosphere is dry when it is capable of drying bodies quickly, *i.e.*, evaporation takes place readily. Really, the rate of drying depends upon the difference between the actual moisture in the air and the amount for saturation, and the relative humidity as defined above is useful as indicating this.

As is commonly known, the rate of drying out of plaster work depends upon the weather, and with the more humid conditions will be distinctly slower. This may easily have beneficial effects for both plaster and concrete, and the extremely important curing of the latter presents less difficulty, while in the former, with properly gauged plaster, the setting may still be made sufficiently rapid to minimise crazing, due to shrinkage of the lime. At the same time, the troublesome results of too great suction by undercoats not sufficiently moist will be more easily eliminated.

The writer is continually coming across cases of moisture in walls or in timber being sealed within by more or less impervious coats of paint, glazed tiles, or other material, and the resulting failures caused by the effort of this to escape. It is a very fruitful cause of peeling paint, possibly much more so than free lime. This is an especial danger this year, and extra time should be allowed for drying out if at all possible, or some more porous surface treatment used which will allow, on one side at least, the process of drying out to take place uninterruptedly.

The subject of moisture in its relation to timber is an extremely large one and full of complexity. To illustrate one important point very rarely recognised, the following simple but interesting experiment is suggested. Fasten a strip of paper 18 in. to 2 ft. long against a wall or board in a vertical position by means of gum or drawing pins at the top and bottom edges. If it be done in dry weather so much the better. As the atmosphere becomes moister this will be very clearly indicated by the bellying out of the paper at the bottom owing to the increase in length of the strip. The same effect may be obtained immediately by allowing steam from a boiling kettle to play upon it.

The fibres of which timber, as well as paper, is composed are hygroscopic, and readily absorb moisture from the air. The amount which they will absorb depends upon the humidity of the atmosphere. Blankets and sheets are well known to become damp in the atmosphere even if originally well aired. Properly seasoned timber, whether air dried or kiln dried, still contains a considerable but variable amount of moisture. Further, this moisture content is not fixed, but varies according to the humidity of the atmosphere in which the timber is stored or fixed. This accounts for the "working" of joinery, although there may have been every reason to believe that the wood was thoroughly seasoned when fixed. The moisture content usual for properly seasoned material is about 17 per cent. for ordinary purposes. This indicates the amount of moisture in the timber when in average equilibrium conditions in the open air, or roughly the amount of moisture which would be found in timber under average conditions in the open air after considerable exposure (but protected from direct rain and sun). In a closed building not specially heated the timber would give up some of this moisture until possibly 12 per cent. was left. In certain heated positions in rooms this might even go down to 6 per cent. The essential point to be remembered is that the amount of moisture in timber in time comes to a certain value which depends upon the humidity of the atmosphere to which it is exposed and this will be attained either by giving up moisture if the air is drier or by taking in moisture if the air is more humid, and that this moisture content changes as the atmospheric humidity changes.

This variation of moisture is accompanied by a swelling or contraction which is rendered more awkward if occurring in one part to a different amount from that occurring in another, *e.g.*, on opposite faces of a partition or door. To allow as far as possible for this the timber should be conditioned to the corresponding state before fixing. Also it will be noticed that air-seasoned timber brought to condition in a damp season contains normally rather more moisture than that whose seasoning is completed in a drier year.

All workers in timber are acquainted with the difference in the manner of working of timber in dry and in wet weather, although often ascribing it incorrectly to a difference in the metal of the cutting tool rather than to the timber. In this connection it may be at once stated that a keen edge, if not in continuous use, is not maintained so long in damp weather as in dry. Moisture, even in the course of a few hours, dulls a keen edge.

Further, not unimportant is the rapidity with which the grain rises in prepared timber exposed to a moist atmosphere, causing annoyance, or worse, to those who are to decorate the surface, and to the client who finds it raised after the required decoration is completed.

It should be noted that the effects mentioned here with respect to timber are wholly due to absorption of moisture by the material of the fibres of the timber as distinct from absorption of moisture into the pores or spaces within the timber structure usually occupied by air. This latter is experienced particularly when water comes into actual contact with timber, and after the "fibre saturation point" has been reached. Fibre saturation is usually reached at 25 per cent. to 30 per cent. moisture, reckoned on oven dry weight. The water is sucked into the timber by capillary attraction in the pores of the material. This moisture does not cause the same amount of swelling as that due to the initial absorption, but, as is well known, the wetting of timber to this extent (especially when alternating over a period with drying) provides excellent conditions for the growth of the organisms of decay.

HOW TO OBTAIN GOOD DRAINAGE

By L. E. Walker.

It is not generally understood, as it should be, that a sewage tank or cesspool is not intended for the disposal of house sewage, but only for its storage until it can be conveniently removed for disposal elsewhere. It should, therefore, be an absolutely leak-proof structure, tightly sealed down and with an outlet ventilating pipe taken to a point where its discharge cannot be offensive or dangerous, and the cesspool should be regularly emptied before its contents commence to overflow.

Even with a properly made sewage tank there is bound to be a great deal of offence and some danger involved in its emptying, but when its contents are allowed to overflow or to leak into the subsoil it is an abomination that should not be tolerated, especially where wells for water supply are anywhere in the vicinity. The earth is a wonderful filter and purifier, but there is a point beyond which it cannot cope with the flood of foul matter that is poured into it, and the defective sewage tank and the polluted earth around it cannot be better described than as a festering sore.

The rural dweller who is faced with the disposal of his own house sewage should first see that no more water enters the disposal apparatus than is absolutely necessary, for getting rid of this water presents the most serious part of the problem. Therefore, turn all rainwater pipes into butts or separate tanks, or into "soakaways" made by digging holes in the porous earth at least three feet away from the building and filling these holes with loose broken bricks or stones. The foul sewage should be run into a perfectly watertight tank, large enough to contain the normal flow of 24 hours. This period is long enough for the solids to break down, so that the liquids can be effectively dealt with by a small filter bed. An overflow from this "septic tank," as it is called, delivers the liquid on to the surface of a bed of coke or clinker several feet thick and having the finer particles at the top. Some sort of distributing apparatus is used to spread the liquid evenly over the surface of the filter beds. In the simplest types this may consist of half sections of stoneware drain pipes, or "channels" as they are called, but the small extra expense of a tipping trough, and cast iron distributing arms, is well justified by the increased efficiency and consequent freedom from attention that is obtained.

The liquid that is discharged upon the surface of the clinker bed is filtered and the water that passes out of the bottom is comparatively pure. A gelatinous growth forms upon the particles of clinker, which becomes

the harbourage of myriads of bacteria, and these effectively dispose of the solid matter that is intercepted by the filter.

It is usual to provide a small tank at the end of the filter chamber to collect any small pieces of clinker or other matter that may be washed out of the filter, and prevent this passing into the outflow and possibly blocking it up. The water that is discharged from this tank, being harmless, may either be taken into a stream or allowed to discharge into the porous subsoil.

Many of the manufacturers of sewage disposal apparatus have turned their attention to the supply of the accessories for small disposal plants, and every country dweller who has any regard for his own health, or that of his neighbours who may be dependent upon well water, should certainly instal such an arrangement. Where a good cesspool already exists, this may be made use of as a septic tank, and an overflow fitted to discharge on to the necessary filter bed. Readers of this paper often ask whether a cesspool can be made inodorous and safe by an occasional dose of lime or other deodorant, but this is not a practical measure. The action that takes place in the closed cesspool or septic tank is wholly putrefactive, whereas the process of filtration enlists the sterilising effects of light, air and beneficent bacteria.

THE BUILDING EXHIBITION, OLYMPIA

SOME IMPRESSIONS OF A PROVINCIAL VISITOR.

WERE it only for the tonic effects of such a large-scale profession of faith in the future of the industry, it would be well worth while for architects, builders, and all others directly or indirectly concerned with building to visit the Building Exhibition; but this year's show offers more than that, and it may be said that it is an improvement upon the last, and consequently ranks as the best yet held. That after such a prolonged period of depression it should be possible to say this about such an exhibition is proof (if proof were needed) of the courage and tenacity of this great industry.

Before saying anything of the general exhibits, one may remark that the exhibition conveys a remarkable feeling of optimism. In ways not quite easy to define, it is felt that we are here witnessing a great reconciliation of what we have come to regard as conflicting interests. In the gallery may be seen a display of drawings prepared by architects for exhibition at the Royal Academy, and opposite to this drawings prepared with the avowed object of interesting the builders of speculative buildings, together with illustrations lent by the Council for the Preservation of Rural England. And enjoying the hospitality of these stands are some remarkable charts, prepared by the National Federation of Building Trades Operatives, showing the action and reaction of Government housing and building policies on unemployment. These charts have attracted a good deal of general attention, and an inquiry whether they were to be republished elicited the fact that many others had put the same question, including Mr. John Burns.

Close by there is a display of garden produce, all edible, which at first sight appears to be out of place in a building exhibition. But it is shown by the Society of Friends, and the object is to provide the unemployed man with a healthy but not unprofitable occupation which will keep him fit or restore him to fitness, so that he may not be unserviceable when trade revives. This is being done by giving him assistance in acquiring and cultivating allotments. We found an architect in charge of this stand.

Then we have in the opposite gallery a still more remarkable display in a series of stands under the title of "New Homes for Old." It is designed to jog the public conscience, and in the main the people responsible for it are ladies, and predominant are the lady architects. Models, maps, plans, and an abundant literature call on us to sweep away the slums. Space will not permit an adequate description of this exhibit, but no visitor to the Exhibition should miss it.

Running through the varied interests so far mentioned is a common realisation that it will only be by a joint effort that we shall bring back prosperity to the industry. The architect is brought face to face with the fact that, if the craftsman is unemployed, he also is without employment. The craftsman, on the other hand, is at last provided with tangible evidence that his interests are bound up with those of the architect and of the builder, and the fact that we are as an industry now making some real effort to pull together is bound to have telling and far-reaching effects.

A word or two may be said in regard to the technical schools, represented in the gallery. Each year sees an advance, and in the longer period that intervenes between the exhibitions the advance becomes very marked. On this occasion, though some of the work could be criticised, the average of merit is a very high one, and it would be invidious to single out any one for special mention. But the Army Vocational Training Centre is in rather a different category in that it tends to encourage the enlistment in the Army of the better type of recruit. That the training now given to those whose bent is towards one or other of the building crafts is practical and thorough becomes more and more evident at each succeeding exhibition; but whether we are not now training too many men to be properly absorbed into the industry opens up too wide a subject, though ripe for discussion, to be dealt with here.

Speaking generally, the first impression made on the writer was that the stands show a considerable advance in design; the architect has undoubtedly made himself felt, and some of the stands are most effective. The second impression is that there is an alert eagerness to give real service, coupled with a cheerful confidence in the future. All the standholders and attendants with whom we conversed gave the impression that they at least thoroughly believed in the merit of the goods and appliances that they were there to show; and listening to the occasional cross-examination to which they were subjected by the practical men (who have been present in considerable numbers), one has come to the conclusion that they were not merely salesmen, but possessed technical training and knowledge of value to the inquirer. In all but one or two rare cases the goods displayed merited this confidence and handling.

The writer was on the look-out for new materials and methods and inventions, but it is no easy matter definitely to distinguish a thing as new, for a product or device may fail to attract much attention for a number of years, and then gain a seemingly sudden recognition and be dubbed new. The Greenwood and Hanson "Anti-Vak Trap," shown on Stands K.203/4, is a case in point. It is a device of great merit that will be appreciated by those who have seen the ingenious demonstration of its points, but it is understood that the inventor has been occupied with it for a number of years.

The Rawlplug Company is showing a tool that is so new that it has not actually been put into service yet except for demonstration purposes. It is constructed after the manner of the large concrete-breaking drills or hammers, but modified and reduced in scale to drill holes rapidly for the reception of the firm's patent plugs.

The Bettaskaf Steel Scaffold Board is new. Its merit lies in its great rigidity and lightness. It is, however, more costly than the wooden plank, but this should not deter the prudent purchaser, for the cost will quickly be recouped in greater ease of handling.

Messrs. Robinson and Son, Ltd., show a new surfacing machine of the "safety first" type, which is new as far as this country is concerned. It appears to bear out the claims made in regard to its efficiency and that it gives a larger output per machine hour than those of the type with which we are familiar.

Messrs. John Healey show some new lenses of French manufacture set in concrete frames for pavement lights. At the stand it was stated that the manufacturer would guarantee the glass against "fiedding" for eight years.

The "Sikar" all-metal weather bar is novel in its application, and is interesting.

Messrs. Bakelite, Limited, show many classes of goods made from their new or comparatively new material (synthetic resinoid), and they are in the happy position of marketing a product for which even in these depressing times there is a rapidly increasing demand.

Messrs. Haskins are showing a number of improvements in shutters and shop window blinds. Their full-size demonstration model of the patented portcullis is interesting.

The Adamite Company are showing a material that is receiving considerable attention, *i.e.*, "Bricanion." It is intended to take the place of wooden plaster laths, and, consisting, as it does, of steel wire cased in baked clay, it will lessen plastering troubles. It can hardly be described as new, but may be said to be modern.

The Cardiff Foundry and Engineering Co., Ltd., show a very interesting device which they call "The Pillar of Fire." Space does not allow of a full description, but a coloured leaflet may be obtained, and road surveyors and public works contractors will find it worth while to procure a copy.

The Universal Asbestos Manufacturing Co., Ltd., claim for a method of reinforcing asbestos-cement roofing sheets that it will make building history. Without going so far as that, it marks an important advance towards ensuring the safety of men whose work takes them on to roofs covered with this material.

These are but a few of the things to be seen at the Exhibition, and are only specially mentioned here because they have claims to being new. In other directions great advances have been made, but the whole of the space in *The Builder* would be insufficient for even a brief summary of them. At some of the stands most interesting demonstrations are given, and those we saw at Messrs. Pilkington Brothers (St. Helens Glass) are bound to make a lasting impression on the memory. At the Kerner-Greenwood stand the merits of "Pudlo" are effectively demonstrated.

The British Legion, which at Preston Hall, Aylesford, Kent, is doing such valuable work for ex-Service men suffering from tuberculosis, displays an interesting small wooden bungalow at Stand G.124. It is the product of men working at their own, or learning a new, trade, while undergoing treatment; and inasmuch as it is the outcome of a movement directed in inculcation of the principles of self-help, it seems to be worthy of support.

The organiser of the exhibition, Mr. Greville Montgomery, is entitled to our congratulations, and the general opinion of visitors is that the show is better than ever and well deserves success.

London Slum Clearance.

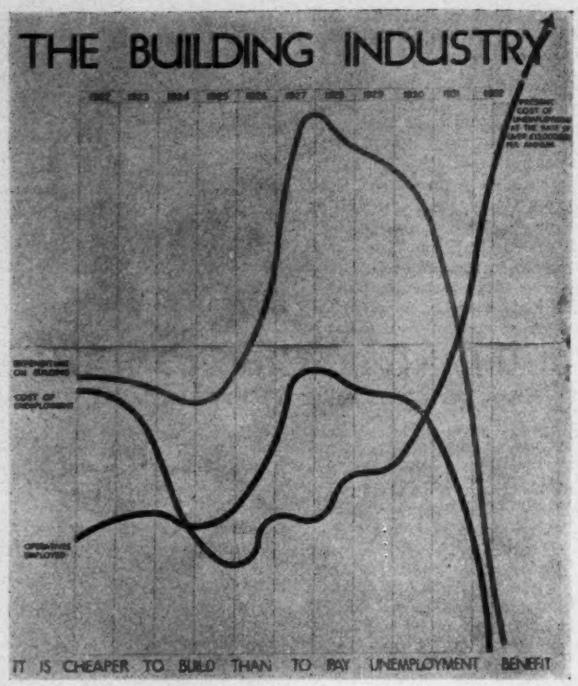
It is understood that land in the ownership of the Bridge House Estates Committee of the City Corporation, purchased in Southwark in connection with the proposed St. Paul's Bridge scheme (abandoned last year), has been utilised for the provision of tenements for use in connection with slum clearance. The London County Council, the City Corporation and the Southwark Borough Council have joined forces in the scheme, and some of the tenements are completed. A representative of *The Builder* was able to get no confirmation of a widely circulated report that the funds which had been set aside for the building of a St. Paul's Bridge were to be diverted to extended slum clearance work in London.

EXHIBITION FUNCTIONS

ADDRESS BY MR. SYDNEY TATCHELL.

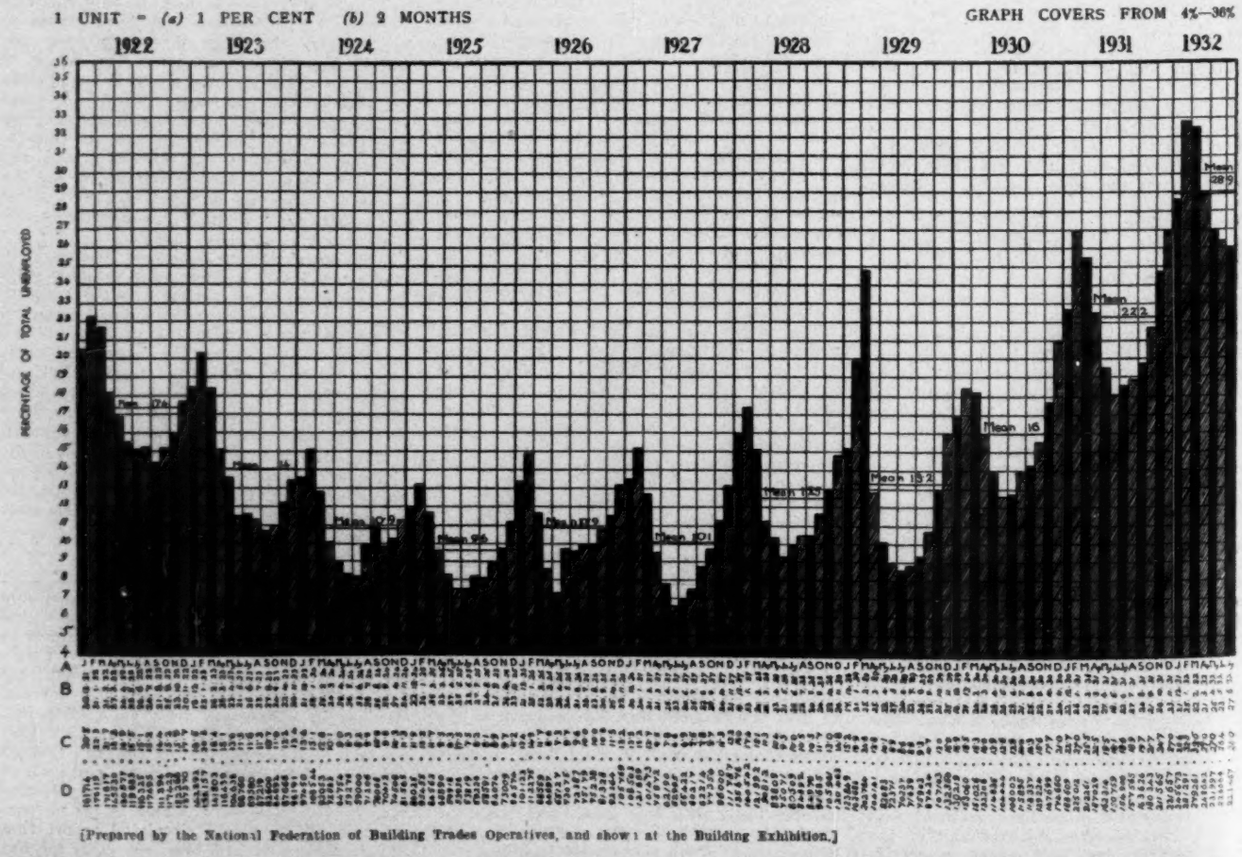
In the Pillar Hall at Olympia, on Thursday, September 15, Mr. Sydney Tatchell, V-P.R.I.B.A., gave a "ten minutes' talk" to the Southern Federation of Building Trades Employers. He said the occasion, which arose from Mr. Greville Montgomery's enterprise and his interest in the building industry, might in a sense be regarded as a suitable time for stocktaking, to assess at their true value our assets and liabilities. Our liabilities were heavy, and the irony of it was that they had accumulated through activities and agencies beyond our control. Economy was the clarion call to the nation last autumn, and building, a key industry, was throttled down ruthlessly. No attempt was then made to obtain the advice of those either on the employing or the operating side as to what economies could be effected without completely wrecking the industrial machine. No thought was given to what Sir Raymond Unwin had so aptly described as the "creeping paralysis" which would inevitably follow an ill-considered policy of so-called economy. The results were now all too apparent even to the politicians. Unemployment relief to building operatives alone to the end of last year was at the rate of £13,000,000, and it was fully anticipated that next year's bill would be £25,000,000, and that was but half the story. For every operative entitled to unemployment relief there was a technical or professional man out of work for whom there was no relief from the burden of fixed charges for the education of his children, for medical services, and for the many other demands from which he could not escape.

The somewhat belated discovery had been made by those who controlled our destinies



[Shown at the Building Exhibition.]

[This chart has been prepared by Mr. Sydney Tatchell, V.-P.R.I.B.A., from official statistics, and is intended to show geographically the relation between the cost of relief, expenditure on building and the reduction in employment of building operatives. It will be at once apparent that between the peak point in the cost of relief and the abyss into which unemployment has fallen there is a middle way of wise spending. It should be borne in mind that this chart represents but half the story. In addition to the building operatives unemployed there is a great and increasing army of clerks, clerks of works, professional and technical assistants and principals out of work for whom little or no relief is available, and from whose burden of standing charges for education, medical services, etc., there is no escape.]



[Prepared by the National Federation of Building Trades Operatives, and shown at the Building Exhibition.]

Chart showing Percentages Unemployed in the Building Industry as published month by month in the "Labour Gazette."

A = Month of Issue of "Labour Gazette."
B = Actual Date of Computation of Unemployment Figure.
C = Unemployment Percentage.
D = Actual Unemployment Figure.

that true economy lay not in saving money but in spending it wisely. A glance at the chart which had been prepared served to emphasise the truth of this, and he hoped the lesson it was intended to convey "got home." We now looked to our statesmen to recognise that between the peak point of expenditure on relief and the abyss into which unemployment had fallen lay a middle way of sanity in spending. The time had come when conference was necessary. There were in every section of the building industry men of vision and experience who could be trusted to give wise counsel to those set in authority over us, and whose co-operation would pave the way for a renewal of activity and would inspire us all with hope and confidence for the future.

In the meantime they had not been idle. His hearers would remember that when the case of the building industry was laid before the Minister of Health their statistics were unchallenged, and the only advice offered was that they should "put their house in order." As to the justice or otherwise of that injunction he would make no comment, except to say that they had taken that task in hand long before the Minister thought of it. It might now, however, confidently be stated that they had "put their house in order," and it was, therefore, on the assets side that they had some reason to be satisfied. They were about to open what might fairly be described as a new stock book, and the first entry would, he hoped, be that of a National Council.

During the past three years there had entered into their dealings with each other a new spirit and a clearer atmosphere. He referred not merely to the relations between one contractor and another, but between contractor and architect, contractor and operative, between the quantity surveyors, the merchants, and the sub-contractors. They had during that time been gaining slowly but surely a better understanding of each other and the problems with which they had to deal. The negotiations over the new Form of Contract paved the way for this better understanding, and they had advanced step by step towards that great National Council on which would be represented all those interests connected with building. Whilst leaving each affiliated organisation free from interference in the conduct and management of its own affairs, the Council would act as a centre or rallying-point for the purpose of focusing collective views and would speak as and when need arose with one voice. As they had already heard, the constitution for the Council had been drafted and unanimously approved by those who represented their several organisations at the conference, and it now awaited the ratification by those bodies. Those who were entrusted with the responsible task of drafting the constitution kept before them the importance of providing a foundation which should be broad enough and strong enough to support a superstructure in which every essential factor had its place and its due value.

They had endeavoured to maintain a sense of proportion, and to keep in mind the fact that the whole was always greater than the part. That National Council, in short, would be a Commonwealth of Interests and Ideals with the success and prosperity of the great building industry as its chief objectives. There was nothing small or petty about it, but, like everything else that was worth doing, a certain amount of sacrifice was called for on the part of its members, the subordination, for example, when necessary, of sectional interests to the greater needs, and the willingness at all times to render service to the industry and the community. Few of them three years ago would have dared to prophesy that so important a step would be found possible, and it was only by the growing confidence which had been a marked feature of their negotiations during the intervening period that that great measure of co-operation had been achieved. It was also a tribute to those men in the industry who possessed statesmanship and broad vision. The opportunity was given to them to forge, if not the first, at any rate a powerful link in the chain of British industries which would enable them as a nation to face fearlessly whatever adversity the future held in store. Above all, they had that better understanding and good will which he profoundly believed lay at the very root of industrial peace.

He had referred to the new Form of Contract. In a recent issue of the *Building Review*, which was the official organ of the West Sussex Building Employers' Association, there was an article entitled "The New Building Contract in Operation." The author dealt with a certain case which had arisen in connection with arrangements entered into by an architect and a quantity surveyor with a building owner, whereby the architect personally guaranteed the payment of certain extras and the quantity surveyor accepted responsibility for the accuracy of his quantities. The point to which he wanted to draw attention was that the writer stated that those unfortunate circumstances had arisen under the new Standard Form of Contract. That was not the case, as the work in question was carried out on the old 1909 Form. He would not refer to that matter at all except that he was anxious that any misunderstanding should be removed at the earliest moment.

The new Form was being very generally used throughout the country, and he heard from all sides that it was found in practice to work satisfactorily. There were, of course, critics, some constructive and useful; others who had a dislike to any alteration in procedure. There was a certain type of mind that disliked change and was apt to seek for sinister motives on the part of those who were anxious to keep abreast with the times, and it was sometimes difficult to convince those sceptics that men could be inspired to serve their industry and the community at large disinterestedly.

There remained the Form of Sub-Contract to be decided, and he had every reason to believe that very shortly that would be available. On balance, then, they might feel reasonably satisfied. Adversity had brought them together, and that Exhibition and all that it implied might prove the turning-point in their fortunes.

Mr. W. J. Brooker, F.I.O.B., proposed a vote of thanks to Mr. Tatchell and Mr. Montgomery, and the motion was seconded by Mr. Elliott.

ADDRESS BY MR. T. P. BENNETT.

On Saturday last, at Olympia, Mr. T. P Bennett, F.R.I.B.A., addressed a joint meeting of the Guild of Bricklayers, the Incorporated Clerks of Works Association, and the Hull Guild of Building, members of which had been invited to tea by the directors of the Building Exhibition.

Mr. Bennett said that under the conditions imposed by the present world-wide slump there was necessitated in building, as in other industries, a degree of efficiency not so acutely necessary when trade conditions were normal; and every man—whether architect, master builder, clerk of works, foreman or craftsman—was bound to see whether he could increase his ability to do his job, by examining his own output, the work of other people, and the products of the industry as a whole, to see where these could be improved. Instead of saying that our difficulties were part of international difficulties, and could not be overcome by personal effort, we should use our excess of spare time to find out things which in normal times we had not time to find out. The cry that the world was suffering from over-production arose from a short-sighted view of things. If an article could be produced at half the price it had formerly cost, consumers could have twice the quantity they had formerly had, provided world conditions were such that they could buy. With the enormous power of modern machinery it only needed some fault in the general scheme of things to be righted to enable us all to buy things that most of us had never dreamed of.

The building industry was often referred to as a sheltered industry, cut off from international or even internal competition, but it saddled the other industries with the capital cost under which those industries had to work. If new buildings were too expensive the country was incapable of buying them, and the members of the building industry, therefore, drove themselves out of work. The industry was in this way subject to international pressure to produce buildings at the right price. In building more than in other industries efficiency must be from top to bottom—architects, clerks of works, master builders, craftsmen, etc., must all be included. The personal link was more important than in industries where the output was governed by machinery. In common with other industries, the tendency in building was to travel from individual, perhaps wasteful, work done under open-air conditions to constructing units in the factory and erecting them on the building, avoiding, as far as possible, the loss of efficiency due to bad weather.

In an exhibition like the present, visitors were able to see the latest form in which builders were able to use the oldest materials, such as stone and wood. They were also able to see what chemistry had done in the way of producing artificial stone and other materials, able to see the extent to which units were being produced in the factories, and able to see the relative cost of materials, comparing brick with stone, tile with slate, etc. It was the duty of architects and builders to consider in what way they could use the new materials, what were their probable defects and advantages, and what was going to be their influence upon design, methods of construction, and improving the conditions of the workman by reducing substantially his hours of labour while enabling him to enjoy a high standard of comfort.

One effect of the changing times would be an enormous increase in the demands made on the leaders of the industry. The ramifications of invention, science and applied art were so great that those who hoped to be leaders in any industry must have brains developed far in excess of what had been necessary in the slow-moving days of our forefathers. One other point was that in building, as much as in any other industry, we needed the accumulated knowledge of other countries, and he would suggest to the various Associations at that meeting that they should each select annually two of their most brilliant members and send them on a visit to any other country where their craft was doing well, so that we might learn what different countries were doing in various directions.

A vote of thanks was passed to Mr. Bennett and Mr. Montgomery.

L.M.B.A. Reception and Tea.

On Tuesday afternoon, by invitation of the directors of the Building Exhibition, members and friends of the London Master Builders' Association were entertained to tea. The President of the Association (Mr. Wm. J. Stewart, M.P.) and Mr. H. G. Montgomery received the guests, and Byrne's Society Orchestra gave a programme of music. Over 270 sat down to the tables.

Specification for Tungsten Filament Lamps.

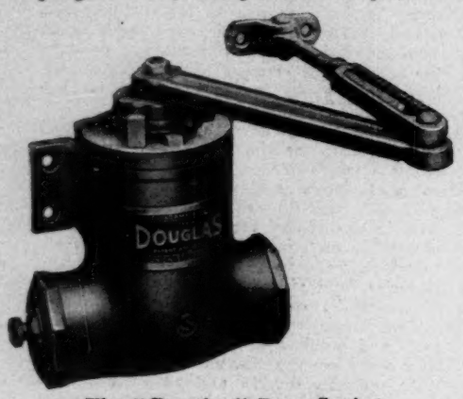
The Committee responsible for the preparation of the B.S. Specification No. 161 commenced to meet early in 1931, with a view to considering further directions in which the lamp specification could be improved and made more valuable to those interested in lamps and lighting. The revisions found possible are incorporated in the 1932 edition of the B.S. Specification No. 161, Tungsten Filament Electric Lamps, which has just been published. The dimensions for these lamps are now clearly specified for British Standard lamps for general lighting services and we are further informed that the dimensions adopted have been accepted by lamp manufacturers all over the world. Copies may be obtained from the Publications Department, British Standards Institution, 28, Victoria-street, S.W.1, price 5s. 4d., post free.

NOTICES OF EXHIBITS

We conclude this week our detailed reviews of the principal exhibits at the Building Exhibition commenced in our last issue. The letter which appears after each firm's name refers to the Row and the figures to the Stand.

James Adams and Son, Ltd., D.63.

This stand exhibits samples of the "Slave" patent pneumatic check door spring, claimed to be the original pneumatic check door spring for floors. The "Slave" patent oil check door spring is also shown. This is reasonably shallow, and follows a similar method of spring application to that in its pneumatic check prototype. The "Popular" series of door springs is shown, and represents a cheaper, but



The "Douglas" Door Spring.

quite effective, double action type of door spring without check. A new spring, the "Douglas" overhead liquid check door spring, is being shown for the first time. Instead of the usual helical spring, the more substantial and durable coil type of spring is employed, but in such a manner that the apparatus can be used for either hand or door without reversing the spring. The internal mechanism of each spring is shown on the stand, so that architects and others can see precisely how they act.

A.C.E. Machinery, Ltd., R.284.

The exhibits of this firm are always of interest, and this year the principal articles of machinery on show include a 30 cwt. electrically-driven "Ace" hoist winch unit; a 10/15 cwt. petrol driven "Ace" hoist winch unit; a 5/7 cwt. petrol driven "Ace" hoist winch unit complete; and a quarter-size working model of a concrete elevating plant. Concrete block-making machines, brick-making machines, and aluminium and cast-iron moulds for ornamental concrete, complete the show.

Abbey Road Building Society, Gal. 36.

This stand should be of interest to builders who are contemplating developing large or small estates, because a specially trained staff is in attendance to explain the Society's mortgage schemes. In connection with developing schemes the Society state that free surveys can be arranged on the spot. Estate agents are invited to leave requisitions at the stand to replenish their stock of advertising matter.

Arens Controls, Ltd., Row M., 225.

The exhibits on this stand consist of the Arens remote controls, showing the modern method of operating windows, ventilators, etc. The company claims to obviate the use of rod and lever gearing, or cables and pulleys. This control is constructed of a steel cable assembled under tension, surrounded by a closely wound steel spring under compression. This unit slides inside a brass tube. Push is transmitted by the spring under the compression, and pull by the cable in tension. The system can be applied to all types of steel or wooden casements.

Robert Adams, D.52.

Door springs and door furniture of high quality are on view on this stand. The exhibits include the new improved patent "Sceptre" Victor double-action and "Gem" Victor single-action floor spring hinges, with exclusive water- and oil-tight patented devices and silent check action, these being only two of a large variety of spring-hinges and springs. Architects will be interested also in the improved ventilating gearing for single sashes and ranges of sashes in any length. Panic bolts; special automatic locking types of patent exit bolts; the "Pullman" spring sash balances, an improved method of balancing double-spring sashes—for side and top fixing (rustless cases); casement bolts in various patterns; and a full variety of house, office, bank, etc., fittings are included.

B.E.N. Patents, Ltd., Gal. 10.

On view here is All-British spray-paint plant and equipment, including the B.E.N. "Pneu-Spray" plant. This is a portable one-gun outfit, fitted with electric motor or petrol engine drive, for interior and exterior decoration work; also shown is the "Pneu-Matic" plant, a portable two-gun outfit, which is mounted on large diameter, pneumatic-tyred wheels, and can be manœuvred easily over rough ground. Also to be seen is the B.E.N. model "L" spray plant, suitable for the operation of three or more paint guns. This outfit is mounted on a substantial four-wheeled base with swivel steering and drawbar, and is worth inspection.

The Bath and Portland Stone Firms, Ltd., R.285.

The stand, as will be seen from our illustration, consists in a simple four square stone building with recessed angles in which are St. Aldhelm box ground stone vases containing shrubs. The building itself is of Monks Park stone on three fronts and St. Aldhelm box ground on one front, built off a Portland stone base. The interior is stone faced to match the outside with a polished Corngrit stone mantel inset thus showing the uses and possibilities of the various stones supplied by the exhibitors. The inner floor is of Manu-Marble by the Manu-Marble Co., of Gloucester, of

The Bath and Portland Stone Firm's Stand.

which the Bath and Portland Stone Firms, Ltd., are proprietors. The ceiling and furniture are by the Bath Artcraft, Ltd., Bath.

Boulton and Paul, Ltd., E.78 and 79.

This stand takes the form of a shelter, 8 ft. by 6 ft. inside, mounted on revolving gear, with sash doors made folding so as to enclose one-quarter, half, three-quarters or the whole of the front, as may be required. Sliding windows are fitted each side. The walls and roof are clad with 1 in. weather-boarding painted three coats. Architects and garden architects are likely to be interested.

British Magnesite Flooring Co., C.34.

The exhibits on this stand consist of the principal products of this firm, including the "Magbestic" jointless flooring in plain red, mottled flooring (imitation terrazzo), marble flooring (imitation), multi-coloured flooring, and carpet pattern flooring. There are certain points about these floorings which should interest architects and contractors.

Buckland Sand and Silica Co., Ltd., C.30.

Architects who appreciate the advantages of a good, clean sand for plaster and concrete work, whether of natural or coloured shade, should make a point of inspecting the Buckland sand exhibited on this stand. Of the white silica type, this sand lends itself splendidly to such work, and examples of cast stone and plaster work executed with this sand give a good idea of its capabilities. The pits are at Reigate, and delivery, on rail to any site at combined road and rail reduced rates, is made a special feature by the firm.

"The Builder," Ltd., M.228 and F.117.

The three special Building Trades Exhibition numbers which we have published are obtainable on our stands. These are as follows:—September 9, first Exhibition Number, containing complete alphabetical list of exhibitors and double-page ground plan showing position of stands; September 16, second Exhibition Number, containing a full account of the opening ceremony, with illustrations and review of exhibits, illustrations of stands, special articles, etc.; September 23, third (and current) Exhibition Number. In addition, the following publications are on view:—A new publication, "English Cottage Designs," containing plans, photographs and perspectives of twenty English cottages; "Architecture" special issues; "Old London Illustrated," "Estimating for Builders," "Law Relating to Dilapidations and Waste," "Law Relating to Fixtures," "Everyday Science for Architects and Builders," "Powers of the Architect," "Designs for Small House," "Bungalows of To-day," "The Master Builders' Handbook," together with a comprehensive selection of publications and text-books devoted to architecture and building.

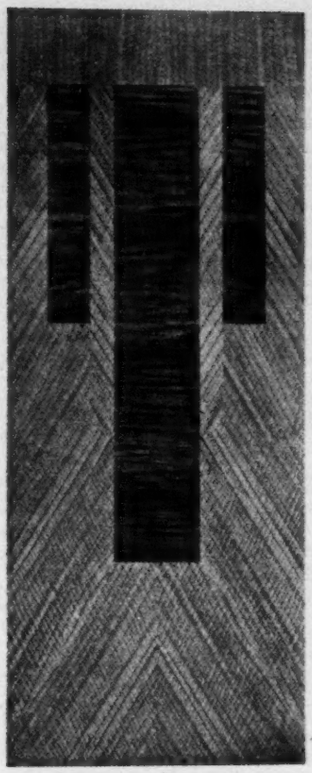
The special feature of our stand in Row F (117) is an exhibition of models specially made for *The Builder* and illuminated by electricity. These are as follows:—The Keep of the Tower of London (a new and specially attractive model to scale, brought direct from the Tower of London), "Old London Bridge," "Mill Loch Arch," "London's First Waterworks," and "Old St. Paul's."

Walter Carson and Sons, K.193.

The exhibits on this stand consist of different types for which the firm are known. The various patent paints produced by the company include the "Japolite" (white), "La Belle" enamel, in colours; "Muraline," a washable dry distemper; "Murapaste," a new washable oil-bound, paste distemper; and "Vitrolite," used for the outside and inside of greenhouses, conservatories and garden frames, etc. Other exhibits are "Plastine," an imperishable putty, specially manufactured to withstand exposure to heat, cold, and moisture on horticultural buildings, wooden or iron sash bars, and glass roofs of every description.

Casebourne and Co. (1926), Ltd., and I.C.I. (Lime), Ltd., T.307.

These two companies, which are subsidiaries of I.C.I., Ltd., are showing a variety of products of interest. On show are:—"Pioneer" hard wall plaster, "Pioneer" partition blocks, "Limbux" hydrated lime, "Pioneer" Portland cement and "Steelcrete" rapid-hardening cement. "Pioneer" plaster, which differs from other calcium sulphate plasters in that no burning or heating is required in its production, possesses the usual characteristics claimed for all other hard wall plasters. Peculiar properties are that it gives an exceptionally hard surface, is free from any tendency to movement, and has, there-



A " Mahtal " Door, veneered with Queensland walnut, on Messrs. James Latham's Stand, H. 147.

fore, complete freedom from crazing. Since it requires far less water to bring it to plastering consistency than some other plastering media, with every ton of " Pioneer " used there is a saving of at least 3 cwt. of water, which would otherwise pass into the building concerned. It has further advantages which architects will look into with profit. Also shown are partition blocks having the characteristics of the ideal block to a far greater degree than many existing types. Limbux is obtained by the careful and complete slaking of Buxton lime in a specially constructed apparatus. It possesses additional advantages of economy in working-space, uniformity, and delivery to site in convenient packages.

Cayless Bros. (Battersea), H.155.

This firm is exhibiting various types of ladders, hand-carts, trestles and general building scaffold of " C.B.B. " tested quality. A special feature is made of an exhibit of a new telescopic ladder fitted with " Steel Clad " patent enclosed locks and the " Patent Steel Multi-Trestles." This multi-trestle is quickly fixed on to the ends of any scaffold board to make a firm staging 1 ft. 6 in. or 2 ft. 6 in. high. Diagonal boarding may be added, using two sets, to give a larger area. Designed to save time, labour and inconvenience, this plant should interest the small contractor and the decorator.

Cellactite and British Uralite, Ltd., F.118.

Cellactite steel cored corrugated roofing sheets are shown in variety, including ridging, flashing, louvre blades, etc., in the same material. This material is light in weight, and it is claimed that it cannot corrode or perish and it does not break. Urastone incorrosible flue pipes and fittings as used with gas appliances and solid fuel stoves are also shown. Cowls of various types, bafflers, bends, tees, etc., in numerous internal diameters, are included. The original Uralite is also being exhibited. This is a tough, easily-worked building board composed practically entirely of asbestos fibre and is claimed to be definitely fireproof. Asbestone (asbestos-cement) sheets, flat and corrugated, of the standard British manufacture, are included in the display.

The Cement Marketing Co., Ltd., F.111.

The principal exhibits being shown by this company include Blue Circle Portland cement, which is used for all general concrete work. Then there are the exhibits of " Ferrocrete," the rapid-hardening Portland cement, which is used for speedy construction, and " Colorcrete," a coloured Portland cement (rapid-hardening), which is supplied in two shades buff and red. " Snowcrete " white Portland cement is also to be seen on the stand. The other exhibits include coloured Portland cement, for renderings and facings; " Tintocrete," white and coloured cement spray finish, for application to concrete, brick, stone, etc.; water-repellent Portland cement (recommended for the backing coat on which to apply coloured renderings), and " Lightning," a brand of aluminous cement, which is ultra rapid-hardening. An attractive and definitely interesting stand.

Clay Industries (Salt-Glazed), Ltd., P.266.

This exhibit, which has been designed and erected by Messrs. Drytone, Ltd., consists of a central pavilion, apparently composed of a group of mammoth drain pipes, the interior being cleverly fitted up to serve as an office. It serves as an information bureau, designed to symbolise on a large scale the salt-glazed stoneware drain pipes which this company specialises in. Owing to the large number of manufacturers associated with it it is not possible to show samples of every maker's ware, but the stand is fully equipped with catalogues and literature, and the company's representatives on duty quote prices and give fullest particulars to interested inquirers.

Colthurst, Symons and Co., Ltd., H.150.

The firm is showing an attractive display of hand-made roofing tiles, interlocking and otherwise. They are shown in an assortment of pleasing sand-faced and glazed finishes in a great variety of colours.

The Compendium Publishing Co., C.39.

Advertising media are exhibited on this stand in the form of " The Architects' Compendium " and " The Builders' Compendium." These annual catalogues of the building trades were established in 1886, and are in constant use by the architectural and surveying professions, the building and the allied trades, as they comprise a very full catalogue of building firms and manufacturers and well-revised lists of architects and builders in London, England, Scotland and Wales. Summaries of Building Regulations, Schedules of Prices, legal decisions, memoranda, etc., add further to the value of these compendiums.

Cork Insulation Co., Ltd., F.116.

" Eldorado " cork tile flooring in a variety of designs suitable for nearly every type of building is being shown by this firm. Cork coved skirtings and angles which allow a thoroughly hygienic angle finish, and at the same time are of a pleasing appearance, are also to be seen. " Eldorado " cork tile flooring is very extensively used for hospitals, schools, clubs, restaurants, public-houses, residences, etc., and " Eldorado " slab cork and sectional cork pipe-covering can be used for the insulation in most types of buildings.

Croggon and Co., Ltd., C.41.

Wrought-iron fencing, steel staircases, structural steelwork and builders' ironwork are the specialities of this company, who display a few examples of their products. The firm claim to be the pioneers in the roofing felt and tank trade.

Damp-Proofing, Ltd., K.197.

The chief exhibit of this firm is "Aquarep," a water-proofing agent which is used to water-proof cement concrete and cement mortar in the construction of all buildings, reservoirs, sewage works, etc. The other product on exhibition is " Flutol B," a material used as a damp-preventer on existing buildings, and for the preservation of wood. In view of the considerable troubles caused by dampness, architects should be interested in the display here.

G. H. Downing, Ltd., E.97.

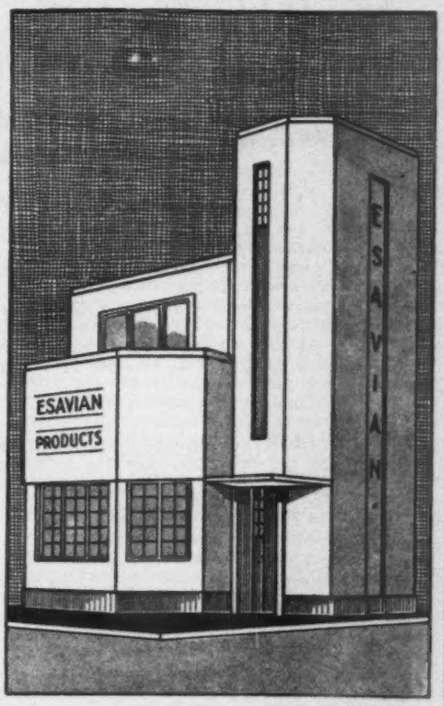
This stand is composed of roofs of the firm's hand-made, sand-faced " Acme "/Century tiles, " Acme " " Sandstorm " sand-faced tiles, and " Acme " machine-made smooth-faced tiles. A visit should prove of interest to architects who delight in good, well-finished tiles.

Drew, Clark and Co., K.189.

The exhibits of the firm consist of their " Diamond " products. The " Diamond " patent extension ladders in two and three sections, extending from 8 ft. to 70 ft., and the push-up extension ladders in two and three sections, are the two principal exhibits. The " Diamond " combined ladder and self-supporting steps, also the patent auto-folding platform steps, are of interest. The other exhibits are the " Diamond " builders' and decorators' trestles, and builders' and decorators' steps; " Rap-Rig " patent sectional scaffolding, for interior decoration; and Higgs and Drews' patent telescopic travelling platforms; lastly, the new patent screw rung telescopic ladders are worthy of notice.

The Educational Supply Association, Ltd., Q.277.

The stand is built on two floors on modern architectural lines in order to display the modern uses of folding windows and doors.



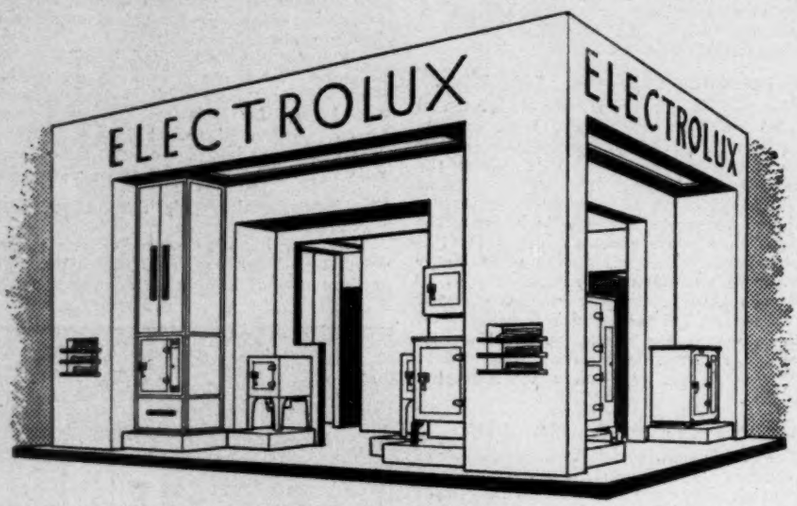
The Educational Supply Association's Stand.

On the ground floor are shown Esavian " Maxlite " windows. The leaves of these are formed of narrow wooden sashes, reinforced with concealed steel angle; steel glazing bars welded to this frame allowing a maximum amount of light to enter and combining the adaptability and rigidity of wood with the lightness and strength of steel. The movements are housed within the thickness of the leaf, and are thus entirely protected from the weather when the windows are shut. Also on this floor are shown Esavian folding doors of two types —flush panelled, with leaded lights; and panelled, arranged to fold flat against the wall. Both these doors can be adapted for use to divide rooms in private dwelling-houses, large public halls, or as doors for garages and other exterior purposes. On

the upper floor can be seen Esavian loggia doors, opening on to a flat roof, three leaves; the odd leaf can be used as a pass door. Other types of Esavian folding and sliding windows, in two pairs with sliding posts, are also built in to what is a most interesting display.

Electrolux, Ltd., R.282.

The Electrolux exhibit comprises a range of refrigerators from one to seven cubic feet capacity. Larger cabinets are available, but those shown cover the most popular domestic models. Particular attention is drawn to the "built-in" cabinets, which are supplied in the rough with only a priming coat of paint, so that they may be incorporated in a cupboard scheme and finished to match the general decoration of the kitchen. Another cabinet shown is the Electrolux "Minor."



The "Electrolux" Stand.

This is claimed to be the lowest-priced self-contained automatic refrigerator ever produced. Electrolux refrigerators operate in absolute silence, without any moving parts. Another Electrolux product shown is a water softener. Models are available to soften the main water supply, as well as a small portable type, which can be fitted to any individual tap. No plumbing is necessary. Electrolux refrigerators and water softeners are manufactured at the Company's Works at Luton, Beds.

Everlasting Tile, Concrete Products and Granite Supplies, Ltd., D.71.

The exhibits of this firm include hand-made concrete plain tiles in various colorations, and new designs; concrete interlocking pantiles with squared base to rest on battens and prevent rocking (special deep horizontal line feature) should also prove of interest. Various accessories and fittings, as concrete bricks; hoods, lintels, posts, etc.; floor tiles and certain fancy tiles; Westmorland slate colour angular ridge, pitch to suit roofs, and a sample of perforated boundary wall, are also being exhibited and form a varied display.

R. W. Farman, Gal.82-84.

The roof of this stand, showing a completed Norfolk reed-thatched job, is of interest, and demonstrations on a roof by a Norfolk reed thatcher are being given by this firm at intervals. The other exhibits include reed mats for camouflaging iron and felt roofs, etc.; riven oak park pales; osier screens for fencing; riven chestnut and ash hurdles for fencing, and genuine hand-made Norfolk rush matting, mats, etc.

Field and Palmer, Ltd., Gal. 34.

This firm is exhibiting a number of dampcourses, including "Fi-pa-led"; "All-Bitumen," which is made from natural bitumen from the Trinidad Lake and guaranteed non-fibrous; "Ecodura," a cheaper bitumen dampcourse for houses; and "Lead Seal," a bitumen and lead dampcourse, the lead being sandwiched between a layer of "All-Bitumen" dampcourse and a layer of housing dampcourse. The other exhibits consist of bitumen expansion jointing, composite asphalt, a system of asphalting to boarded flat roofs; composite shingled roofing, which is similar in all respects to gravel insulated, but has, in lieu of the gravel covering, a special dry, clean grit embedded into its surface; and "Macflex" Roofing, which is a composite (built-up) roofing finished with special fine tarmacadam: surfaces for hard tennis courts are also on view.

The Gas Light and Coke Co., Q.279.

This exhibit contains a large selection of the most modern gas appliances for cooking, room warming, the supply of hot water, refrigeration, central heating, lighting, and other domestic and office uses to which gas can be applied. Mr. Walter J. Tapper, A.R.A., has designed the exhibit, which includes model kitchens equipped with the latest gas appliances. Other sections contain gas fires, gas-fired central heating apparatus, modern gas-lighting fittings, etc. Special open grates for burning "Cleanglow," the efficient smokeless fuel, can also be inspected. These grates are fitted with a gas burner which lights the "Cleanglow" in 10 to 15 minutes, after which the gas is turned off. A feature of interest is the display of gas fires finished in a wide range of pleasant colours.

J. Gliksten and Son, Ltd., E.90.

This firm is specialising in thoroughly seasoned hardwoods of every description. The range of woods on exhibition should prove of interest to all architects and builders, including, as it does, such timbers as mahogany, oak, walnut, teak and whitewood.

Goodlass, Wall and Co., Ltd., Q.274.

This exhibit consists of an effective stand divided into sections of rooms, treated with the firm's various paints and enamels and designed to demonstrate the results that can be obtained by any practical decorator with such specialities as gloss "Combinol," Swansdown enamel, flat "Combinol," "Brustane" (scumble), Goodlass' fast reds and their new anti-rust paint—"Anodite." No decorator or builder should miss this stand.

Greenwood Ventilating Co., Ltd., C.44a.

The many exhibits on this stand include the company's patent cast-iron larder lights, designed to give efficient ventilation with lighting at low costs. These are merely built in. Aluminium "Hit and Miss" ventilators and the patent "Permavent" skylight ventilators, which provide permanent ventilation with lighting, are easy to fix and require no flashings, are also on view. These are made with or without opening gear. "Permavent" plain skylights and deadlights are being shown, and a selection of patent ventilating windows and skylights, made in cast-iron, steel galvanised, zinc and copper, complete the display.

Guilliet, Sons and Co., Ltd., C.33.

Machinery for sawmill and wood-working is displayed in abundance here. Twenty machines in all are shown, of which the following are typical:—Type SRE: A high-speed panel planing and thicknessing machine, with sectional grooved feed roller and pressure bar, fitted with an automatic rising and falling table, with grinding and topping attachment. It is made in four sizes: 28 in., 32 in., 40 in. and 49 in. by 9 in. thick. Type CIB: A heavy hand feed planing and surfacing machine fitted with three-knife cutter-block and tables 10 ft. long. This is made in four sizes: 16 in., 20 in., 24 in. and 28 in. Type BRBm: A dimension circular sawbench fitted with direct motor drive, fitted with rising, falling and canting table and ball-bearings; made in three sizes: 12 in., 20 in. and 28 in. Type EBm: A combined moulding and tenoning machine, fitted with two horizontal cutterblocks and vertical spindle for moulding and scribing; suitable for wood up to 12 in. wide and tenons 5½ in. long. A machine for every wood-working purpose is here.

Hollis Bros. and Co., Ltd., H.153.

The exhibit on this stand comprises wood block, hard wood and parquet floorings, and special prominence is given to Empire timbers of proved merit now available for flooring requirements, many of which have been extensively employed on numerous important buildings in London and the provinces. Members of the staff are in attendance, and are in a position instantly to quote prices for the various floorings fixed complete. Special literature is available, stressing the facilities this firm possesses for the vitally important processes of seasoning and kiln-drying material before manufacture. The firm also draws special attention to the service they can offer in resurfacing and polishing existing floors. Architects for all classes of public and private buildings will with advantage see the floorings shown here.

The Ideal Window Co., Ltd., D.62.

The Patent Ideal "Stormproof" Wood Window is one of the chief exhibits of this firm. These windows have been used in the most exposed positions on the coast and in the country, and have the qualities of being stormproof, draughtproof, dustproof, with hinges rustproof, while the casements do not require easing. The windows can be made to any size, according to requirements, and are not confined to standard sizes. Other exhibits include panelling, shop fronts, stairs, and every description of joinery.

The Incorporated Association of Architects and Surveyors, Gal. 63-4.

This Association has taken spacious accommodation in the Gallery Bays for use as a reception-room for members and friends. Representatives of the Association are in attendance to furnish all particulars of the Association and its activities. There is also an interesting exhibition of architectural drawings.

Interoven Stove Co., Ltd., L.221.

This firm is exhibiting "Super-Interoven" convertible stoves in various sizes, also the new "Selfix" "Interoven." These stoves are the latest improvements in stoves with oven above the fire. The "Latona" oil-heated radiator, guaranteed odourless, which can also be fitted with an electric immersion heater, is also on show. This is an extremely simple portable radiator, which can, if desired, be supplied on wheels so that it can be moved from room to room. A new model of the "Cheerio" wrought steel domestic boilers, electrically welded, with a disappearing fire door, is also displayed. Amongst the other exhibits are the "Leighway" valve, a simple and rapid way of transferring hot or cold water from washing

copper to bath or from main supply to bath or copper.

G. Johnson Bros., C.42.

The exceptional display of architectural metal work and drawn metal mouldings on hardwood cores used in the construction of shopfronts, doors, frames, lettering, etc., form an excellent exhibit. A unique display of miniature shopfronts showing the most modern and original ideas and designs for 1933, coupled with experience dating from 1896 will be of great interest. The adoption of cellulose on wood and metal has a very pleasing effect. The uses of ceramic enamel on bronze in opaque and iridescent colours is shown by means of various letters used on nameplates for banks and commercial buildings, the letters being cast with recessed faces, which, when filled with enamel, are fired, thus giving an everlasting and perfect finish. The practical application of Firth's "Staybrite" steel for modern shopfitting has never been so successfully depicted as by Messrs. G. Johnson Bros. We illustrate the stand on page 525.

Jones and Attwood, Ltd., J.179.

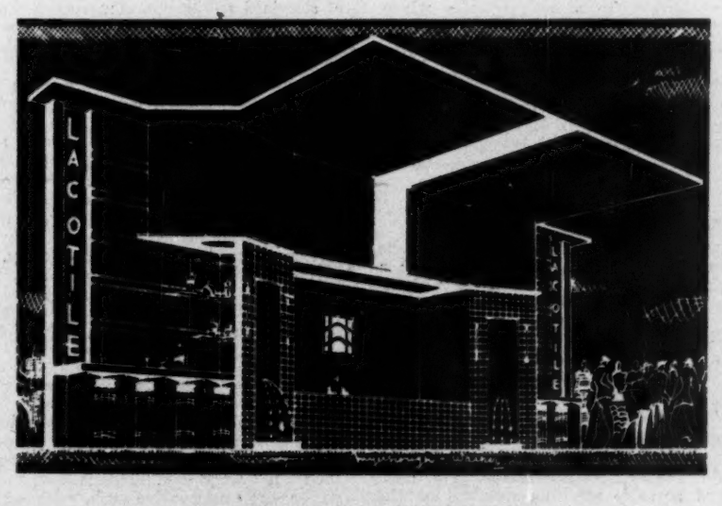
The principal exhibits to be seen on this stand are the company's well-known boilers for central heating, domestic hot water supply boilers, and greenhouse and garage heating boilers. Many articles for general heating, besides hot-water pipes and fittings, are also on display.

Kingfisher, Ltd., T.306.

The products of this firm include various types of sliding and folding partitions and windows. A particular exhibit is the partition which enables large rooms to be converted into smaller rooms—and back again—with utmost ease, and sliding and folding windows, which provide open-air conditions when the weather is fine, and which close to afford full protection during inclement weather. There is also a special pattern sliding and folding window, which is fitted with steel glazing bars, so that maximum light is obtained. For those interested in the planning of modern dwelling-houses there is a sliding and folding bay window. This can be fully opened so that the room is converted into a loggia when the weather is favourable. The Kingfisher portable folding seating, which is used in halls, and items of office furniture are also on exhibition.

Lacotile, Ltd., G.142.

This stand, which we illustrate, is by Mr. Myerscough-Walker, and is designed to show the merits of Lacotile for modern tiling decoration. Lacotile is manufactured on a base of Masonite "Presdwood" in sheets 8 ft. by 4 ft., so that cutting to shape even round awkward fixtures is a simple matter, and installation, whether on plaster walls with Lacotile cement, or to battens on brick walls with Lacotile brads is clean, rapid and easy. The application of this material is shown by means of two complete bathroom schemes. Lacotile plain sheets are shown on the ceilings, and attention is drawn to the special Lacotile mouldings and the completely invisible method of fixing.



The "Lacotile" Stand.
MR. MYERSCOUGH-WALKER, Architect.

The "Raleigh Diorama" on the "Limmer and Trinidad" Stand.

Leeds Fireclay Co., Ltd., E.99.

On this stand is erected an office and show bathroom, with dividing passage. This block is built of 4 in. by 4 in., 4 in. by 3 in. and 4 in. by 2 in. studding covered with approved fibrous boarding and distempered in various colours. The whole is built on a black faïence base 1 ft. 3 in. high, with vermilion faïence panels projecting up from same with faïence grille windows. The faïence base is carried from the office block along the two 20 ft. sides, terminating in two garden ornament bases. The open space remaining (approximately 11 ft. by 14 ft. 6 in.) will have occasional garden ornaments and two stands for two lavatory basin fittings each. A special wash fountain occupies the centre of this space. This is an interesting and pleasing display.

The Limmer and Trinidad Lake Asphalt Co., Ltd., F.113.

An illustration on this page is from a photograph of a model which is the property of the Limmer and Trinidad Lake Asphalt Company and is on view at their stand at the Exhibition. The model, which is 7 ft. long by 4 ft. high, depicts Sir Walter Raleigh examining an overflow of asphalt from the famous Lake in Trinidad, British West Indies. The scene is reconstructed from a description in Sir Walter Raleigh's diary describing his cruise in 1595, when he landed on the island of Trinidad and discovered the asphalt lake. The photograph shows him examining a portion of this unique material which had overflowed from the main deposit and found its way to the sea-shore. Sir Walter Raleigh naturally had no idea of the immense importance of his find and would no doubt be much surprised at the enormous use to which it is put to-day in road and building construction; but he nevertheless found it "to be most excellent good" for the caulking of his ships. We may add that Trinidad Lake Asphalt is an Empire product and is used in all their manufactures.

L.C.C. School of Building, Brixton, Gal. 23-4.

An exhibition, representative of the work of this school, is on view here. The outstanding feature is the display stand which has been designed by a member of the school staff, constructed in the school and decorated by students of the Day School. The exhibits on the stand show the standard and scope of the practical craft work accomplished in the day and evening schools, and attractive examples are shown of work in brick, stone, wood, plaster, lead and hard metal pipe work. Examples are also shown of general draughtsmanship in architecture and building detail, interior decoration and architectural art. The whole of the work has been accomplished in the normal classes and courses of the day and evening schools during the last two sessions.

London Warming Co., Ltd., L.213.

Two new productions are shown this year. One is the new "Kooksjoie" range, now specially lagged with indestructible material, and the fire greatly reduced. The new pattern boiler is designed to carry radiator and towel rail, as well as abundant hot water for bath and scullery use. The other is the new "Osobrite" slow-combustion stove, which gives a perfect open anthracite fire, combined with the advantages of a continuous burning stove. The Florence patent grate is

also shown, which is a guarantee against smoky chimneys. Robin Hood boilers, Beeston domestic boilers and radiators are also shown at work.

W. Lusty and Sons, Ltd., Gal. 65.

"Maidsaver" kitchen equipment comprising kitchen cabinets of ash and of oak, in numerous designs and a great variety of finishes, are to be seen on this stand. This fitment, designed to be built into a recess or to completely cover one side of a kitchen, ensures orderly storage of all necessary kitchen utensils in the most compact and handy form. Kitchen cabinets of the popular type will be on show in ash, polished natural colour, and in oak, polished Jacobean, with and without interior fittings. The white enamel cabinet, which has a particularly fine finish, is another exhibit.

H. J. and C. Major, Ltd., J.175.

The roof of this stand is covered with the firm's red patent double Roman interlocking roofing tiles, improved pattern, and red No. 6 interlocking double Roman tiles. Various pattern roofing tiles are also shown, such as pan tiles, ordinary double Romans, single Romans, angular tiles, etc., etc., placed on frames inside the stand. Other exhibits consist of various pattern ridge tiles, finials, flooring tiles, oven tiles, etc., all of interest to the architect.

The National Flooring Co., Ltd., L.207.

Parquet flooring in all kinds of hardwoods from ¼ in. thickness are the special features of this stand. Attention is drawn to the patent spring portable parquet dancing floors in hardwoods, and the spiral spring dancing floors. Other specialities on show are the oak "Parlok" panelling; and "Parlok" wood block flooring in all kinds of woods. Demonstrations are given of floor surfacing and polishing by hand or machine; examples are on view of non-cracking terrazzo and mosaic flooring, and composition flooring in all colours.

National Radiator Co., Ltd., P.263.

A comprehensive exhibit of "Ideal" appliances for heating and hot water supply, together with "Ideal" classic and domestic boilers in coloured vitreous enamel finishes are to be found here. An excellent selection of "Ideal" radiators are also displayed, particular attention being drawn to the "Ideal" "Neo-Classic," two, four, and six column, wall and window type. The "Ideal Hospital," narrow and wide patterns, is also worthy of attention. Architects should also see the "Ideal Cookanheat," including the new No. 30, with auxiliary gas cooking attachment, which is most useful in housing work.

Nautilus Fire Co., Ltd., R.283.

This stand is designed to show up-to-date gas appliances. Several complete kitchen suites, each consisting of a "Nautilus" domestic coke boiler and gas cooker, are on show, and a further exhibit is of the Nautilus "Economy" (cast-concrete) gas flues, including built-up section. Nautilus coal-saving grates, and "Marblate" surrounds and mantelpieces with gas fires, and cast-iron gas mantel registers, are also displayed, besides a working display of geysers, including a pleasing model in white porcelain enamel with chromium-plated fittings.

Wm. Oliver and Sons, Ltd., A.2-4.

The company are specialising this year in the best known Empire timbers, including a very fine exhibit of English oak, thoroughly dry, and they also show some beautiful sample panels of English brown oak. Teak, Honduras and Lagos mahogany reappear alongside of chuglam (from India), and silky oak, blackbean, walnut and jarrah (from Australia), the last-named wood making excellent flooring. Examples are on view of veneered plywood panels now used for public and domestic buildings. Austrian wainscot oak is also on show, together with examples of Cuba mahogany, French ("Ancona") walnut, Japanese oak and the American hardwoods in common usage.

Thos. Parsons and Sons, Ltd., G. 133.

The stand of this firm is in the form of a ship's deck, and is well known to all as H.M.S. "Endelline." On show are some practical examples of enamels, varnishes, and paints, including the Endelline enamel, which is used for interior and exterior use; Parsostain, which is claimed to be easy spreading and penetrating, and not set too quickly; Parso-stone, a paint which gives a rough stone-like surface on any material; Parsons' anti-corrosive gloss paint, for interior and exterior ironwork; the aluminium "Mosaico" silver paint; Parsons' liquid stainers; and Parsolac synthetic finish, a new process enamel and varnish, quick hard drying, yet elastic.

Thomas Potterton (Heating Engineers), Ltd., C.40.

Hot water supply and central heating for all household and industrial purposes is the special feature of this stand. Working examples are shown of automatic gas-fired thermal storage water heaters, "Empire" and "Emperor" boilers, "Emperor" thermal storage sets and multiple "Empire" sets for bulk supply operated automatically by bi-metal thermostat. Other demonstrations include bi-metal thermostats and other forms of automatic control; gas-fired central heating boilers (30,000 to 250,000 B.T.U. per hour), and low-pressure hot water heating with "Magnetic" distance control thermostat. Coke boilers for central heating, radiators, towel dryers and accessories are among the other exhibits.

The Powell Duffryn Steam Coal Co., Ltd., D.49.

This firm is exhibiting a new product, which they have named "Synthaprufe." The product is an emulsion, specially prepared for the waterproofing of concrete. Everyone is aware of the difficulties that have been experienced with flat concrete roofs; how, some years after erection, fine cracks may develop therein, which are the source of considerable difficulties by the percolation of rain water, which produce objectionable effects upon the interior decoration. "Synthaprufe" is a liquid of about the same consistency as milk, and will therefore penetrate into the finest cracks and pores, and in a very short space of time the emulsion "breaks," leaving wherever the emulsion has passed, an elastic material of great durability, which will respond to any movement within reason to which it is subjected.

Preston Hall Industries (Incorporated), G.124.

At this stand is displayed the new "Prestal" graining process. By its means the grains of expensive decorative timbers and marbles are transferred at a very low cost to cheap basic materials, many of which possess structural value and so need not be merely "planted" on the building but may, constructionally, be a part of the whole. Bases on which these grains can be impressed include plywood, asbestos-cement, wall-boards, glass, and various sheet metals. When grained these materials can generally be fixed by any of the ordinary methods; so that the builder does not need the services of specialist tradesmen, nor does he require special fixing apparatus. Dull or bright finish may be obtained at the same price.

Ransomes and Rapier, Ltd., C.38.

Messrs. Ransomes and Rapier's exhibits this year comprise a 4T concrete mixer; a "Featherweight" concrete mixer; a "Lightweight" concrete mixer fitted with barrow hoist; a 7R concrete mixer; a truck type mobile; and a petrol hoist. The 4T concrete mixer is a new tilting model of 6/4 cu. ft. capacity. Its general design is in accordance with the latest practice and most up-to-date principles. It has a unique form of skip-tilting gear, and can be supplied with an automatic water tank if desired. The "Featherweight" tilting mixer is a compact and portable machine suitable for the smaller type of contract. The "Lightweight" tilting mixer with barrow hoist can deal with 7/5 cu. ft. per batch, producing 50/55 cu. yds. of efficiently mixed concrete per eight-hour day. The hoist can deal with 6 cwt. at 100 feet per minute while simultaneously mixing. The truck-

The Ransome and Rapier Truck-type Mobile Crane.

type mobile crane shown above is suited to works, warehouses, goods depots, etc. Power is supplied by a petrol-generator set mounted on the crane, and a separate motor is provided for each motion, and each with its own selector switch. This crane can lift one ton at its minimum radius and 10 cwt. at its maximum radius.

The Rawlplug Co., Ltd., B.11.

This company is giving throughout the day demonstrations in fixing with the aid of Rawlplugs, and Rawlplug bolt anchors. An automatic hole-driller for use in fixing "Rawlplugs" is a new development being shown for the first time. A full range of Rawlplugs for use with screws sizes Nos. 3 to 30 are on show, and bolt anchors sizes ¼ in. to 1¼ in. are also exhibited. A complete range of bathroom fittings in four distinct styles—durium, enamulin, vitreous porcelain, and chromium—are on view, and, in addition, there are examples of work carried out with Rawlplug plastic wood, which is wood in putty form; Durofix, the heat and waterproof adhesive; "Gripscrew" drivers, the screwdriver that grips the screw; brushing Belco, the cellulose enamel; a full range of Naylor's household paints, and "Fastain," the varnish stain for use on floors and woodwork generally.

Roneo, Ltd., F.105.

The steel doors, partitions, shelving, cupboards, etc., exhibited illustrate how it is possible to obtain any architectural treatment which may be desired. Steel partitions, made of standard sections so constructed that they can easily be taken down and re-erected in a new position if conditions make this desirable, are an exhibit which will be viewed with interest by architects for office blocks. Partitions are packed with a sound and fire-resisting material finished with stoved enamel and cellulose in any colour desired, and, as exhibited, present a very attractive appearance. Bank fittings, in the form of counters, desks, filing cabinets, and shelving are shown in this exhibit, and indicate the great advance which has been made in England in the manufacture of steel furniture and fittings. Steel shelving drawers, etc.; and steel fittings to obviate the danger of warping and cracking, caused by central heating, saving continual repairs, complete this British display.

Ronuk, Ltd., F.109.

This stand has been erected in oak, the whole having been treated by the workmen of the company's polishing contract department. The floor is of ordinary deal boards stained before polishing with "Colron" wood dye. This is the penetrating permanent preservative stain with which the company's polishing contract department has, during the past thirty years, prepared hundreds of acres of flooring in the great public

buildings, institutions, etc., throughout the country. It is claimed to be equally suitable for doors, panelling, all joinery and other woodwork, the only essential to success being a perfectly clean, bare surface on which to work. Also on exhibition are a number of "Colron" wood dyes.

Rubber Growers' Association (Inc.), E. 82.

The exhibits of this firm include such articles as hose for supplying water, valves and washers used by the plumber and fitter, cables and other accessories required by the electrician, and door-stops, draught excluders, window wedges, lavatory seats, buffers and chain handles, mats, etc. A further application to be seen on this stand is rubber flooring. A section of the stand has been allotted for a display of rubber as a pipe-jointing medium. The proved advantages of rubber for this purpose under extremely onerous conditions should in the course of time lead to its greatly extended use.

Ruberoid Co., Ltd., H.145.

Ruberoid roofing has been employed for over forty years on buildings of all types, and this stand is designed to show that it is equally efficient on flat-pitched or curved roofs, and can be laid on wood or concrete. Ruberoid is made in grey or red, with a smooth surface finish, and in red or green with a surface of natural crushed slate. The texture of the surface and soft colourings make this latter material a dependable roofing for bungalows, garages, pavilions, and all pleasure buildings. A particularly useful form of slate surfaced Ruberoid is the Ruberoid strip slate. This supplies the same broken surface and appearance as an ordinary slate or tile, but has the advantage of being unbreakable. Four slates in one, they can be fixed quickly, and, once in position, cannot lip or crack. On view are models showing the method of application to roofs of various types. Ruberoid dampcourse, "Pluvex" bitumen dampcourse, Ruberoid sarking felt, Zylex slaters' felt, and some preservative paints are also to be seen.

St. James' Tile Co., Ltd., Gal. 49.

This company has been formed with a view to manufacturing in this country terrazzo floor tiles of all descriptions. These tiles have hitherto been imported from Italy and Belgium, and numerous large jobs have been done with them, including the Regent Cinema at Bishop's Stortford, Worcester County Schools, Tonbridge Schools, etc. A large range of tiles in various sizes, manufactured with very hard marble chippings in British snowcrete cement, and also in various other colours and designs, are on exhibition. In addition to these floor tiles, the company are exhibiting wall tiles of all types, in which they specialise. It is worthy of mention that the machinery used in making these tiles exerts a pressure of 1,500 lb. per square inch.

Scaffolding (Great Britain), Ltd., E.101.

Various constructions of patent steel tubular scaffolding are shown, together with the complete range of fittings at present manufactured by this company. The tube is of solid drawn British steel of special tensile strength as ordinary steam tube has been found of inadequate strength for continuous use in scaffolding work. Examples of a patent adjustable steel gantry and of patent suspended scaffolding will also interest, and a section of this scaffolding for use on steel frame buildings is on view, and full explanations are given as to the advantages of its use and the method of installing and operating. "Conforms" steel shuttering for concreting, the patent adjustable "Splithead," the patent "Tubeshor" and the "Toledo Horse" are shown among the auxiliary scaffolding exhibits.

The Silicate Paint Co., Ltd., E.98.

This exhibit represents rooms decorated in various colours of "Duresco" water-paint. The ceiling is in broken white Duresco and the walls pale buff, with modern decoration into which is introduced a variety of Duresco tints. The woodwork of the room is finished in the company's special varnish. The small room has the ceiling in light cream, quartered with "Almium" aluminium paint of the company's manufacture. The walls are in rose pink, rag rolled, with peach Duresco. A feature of the exhibit is the door, which is treated with "Almium." Also on show are the winning panels in the recent Duresco competition.

Stephens and Carter, Ltd., O.253.

Improvements are constantly being introduced in builders' and contractors' plant, and every Building Exhibition is notable for a display of the hundred-and-one improved devices and appliances that make for increasingly efficient building. On this stand is to be seen an extensive exhibition of builders' ladders, barrows, steps, trestles, truck, extension ladders, steel scaffolding, travelling cradles, scaffold cords, drain rods, rubbish screens, rubbish baskets, handcarts, and also many other articles useful to the building and decorating trades, such as hoisting tackle, blocks, etc. The stand should be visited by all builders and contractors who are interested in keeping their equipment thoroughly up to date.

The Sussex Brick Co., Ltd., J.178.

The stand of this company is in the form of an Iguanodon, that great extinct reptile that once made its home in the Weald, and whose remains have been from time to time excavated in the claypits. It illustrates the range of products made almost entirely from the same "Wealden" series, such as the Southwater vitrified engineering bricks; "Wealden" stocks; Tonbridge multi-facings; Lingfield engineering wirecuts; Guildford, Farnham and Crondall roofing tiles and fitments; and the Warnham Common pressed bricks.

Thames Board Mills, Ltd., G. 140.

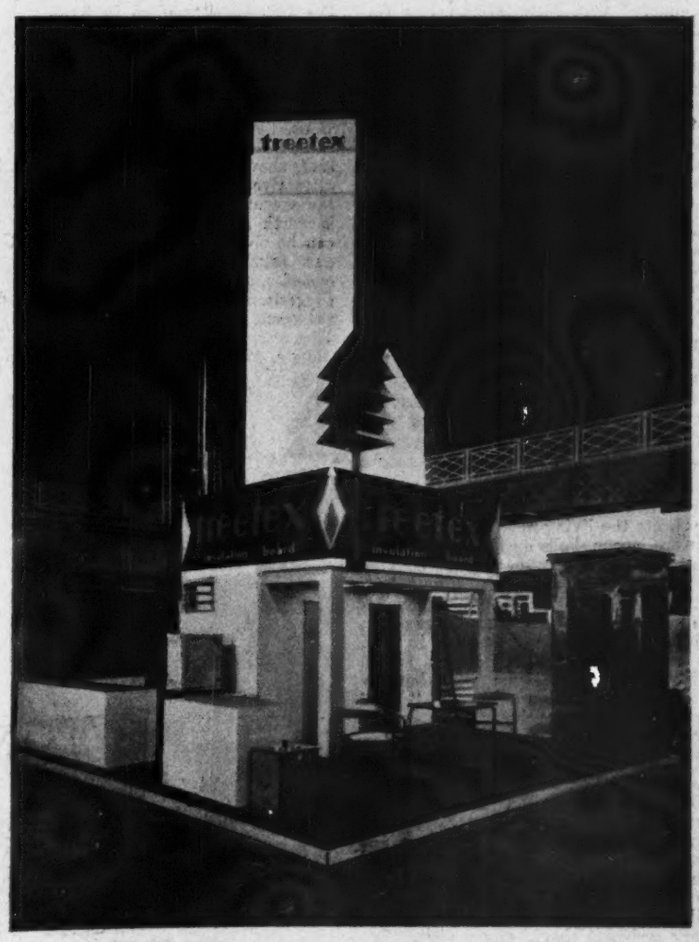
As at previous exhibitions, this company's stand is situated near the Addison-road entrance. Advantage has been taken of the island site which it occupies, and the stand has been erected with "Essex" board, in a manner designed to show the board's application to walls, ceilings, partitions. The result obtained is certainly a good demonstration of the practical value of this British-made material. It is always encouraging to hear of British achievements. The fact that the sales of "Essex" board for the first six months of 1932 are stated to be higher than at any similar period must afford some satisfaction to the users of this board, when it is remembered that its manufacture provides direct and indirect employment for some thousands of British workers.

S. Tyzack and Son, Ltd., K.191.

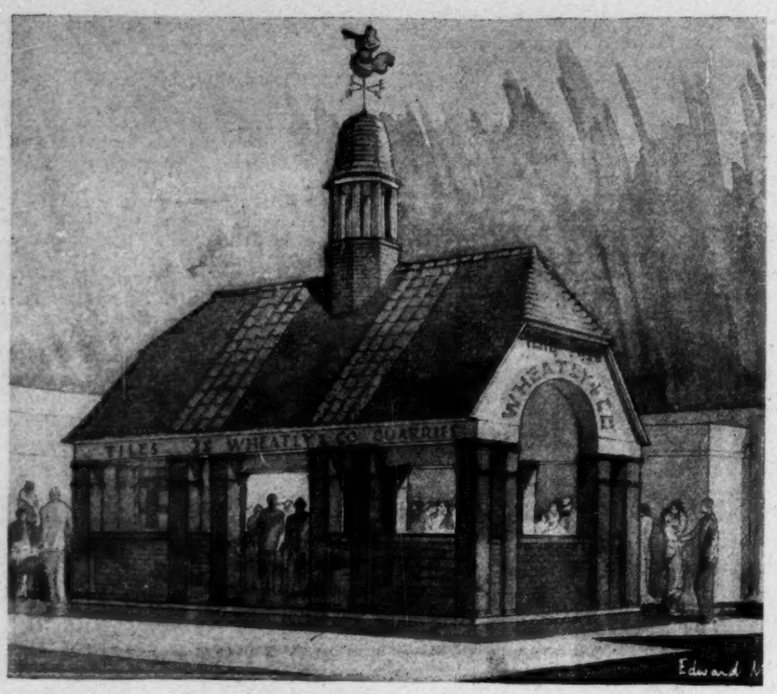
This exhibit represents a number of up-to-date machines, including "Super-Ten" Zyto power universal woodworker; the "Zyto" junior woodworker; the "Zyto" foot power universal woodworker; 15 in. saw bench and boring machine; 20 in. ball-bearing saw bench; various wood planing and mortice machines. Also to be seen are a representative assortment of tools for carpenters, joiners, plasterers, bricklayers, slaters, plumbers, etc.

The United Steel Companies, Ltd., N. 240.

This stand contains a comprehensive collection of products of several of the constituent firms of this combination of companies. The stand is dominated by a sign made in the form of ferro-concrete columns and beam.



The "Treetex" Stand, P. 264
(See Notice in last issue).



Messrs. Wheatly's Stand.
MR. EDWARD MAUFE, F.R.I.B.A., Architect.

Amongst the steel for ferro-concrete construction are shown plain and bent, hooked and shaped bars, ready for fixing, "spirals" and strip made by the United Strip and Bar Mills branch. The Thos. Butlin and Co. branch have contributed the floor of the stand, made of non-slip concrete paving slabs, together with other pre-cast concrete products, such as kerbs, cills, fencing posts, line posts, etc. The Frodingham Iron and Steel Co., Ltd., and Appleby Iron Co., Ltd., branches are showing a selection of constructional steel sections, including joists up to 24 in. by 7½ in. British Standard Section.

The Universal Asbestos Manufacturing Co., Ltd., S.297.

This stand is entirely devoted to a display of asbestos-cement products. It is roofed over with asbestos-cement pantiles. The walls of the office externally are covered with "Twin Twelve" sheets and internally with plain and embossed sheeting. In front of the office door is a "Watford" tile under test. The construction of the stand is in timber with a wood floor. In the office there are partitions showing other asbestos products made by the company.

Allan Ure and Co., Ltd., L.216.

Various models of the "Ure back-to-back" grate are on show here. This type of grate not only heats the living-room from its cheerful open fire, cooks, boils on the hotplate and supplies abundant hot water, but the cooking is all done in a warm kitchenette, where clothes may be dried, the living-room remaining clean and tidy at all times. In summer, when the fire is off, gas can be fitted in oven and on hotplate. The models shown on the stand include the new type with laundry boiler, in addition to the usual oven. "Ure" interior cookers are also shown. These combine hot water supply and a cooking oven with the appearance of a modern room grate.

Vigers, Sons and Co., Ltd., Gal. 14.

Specimens of parquet flooring in various designs are shown on this stand; also all types of block floorings, strip floorings and panelling executed by this firm. Blocks suitable for flooring every type of public and private building—schools, hospitals, municipal buildings, houses, flats, etc.—are on view, and every architect should pay a visit.

Wheatly and Co., D.60.

With the exception of the weather vane and a few minor sundries, this stand is built entirely of "Triton" products. Specially noticeable is the clever use of fireplace briquettes for the name; also the new brown flooring quarries on show for the first time; the attractive fireplace in Staffordshire briquettes; the new pattern semi-bonnet hips designed to give a pleasing line down the hip, and the many varieties of roofing tiles, including pans. The briquette pillars carrying the roof offer a pleasing alternative to 2-in. brickwork, likewise the hexagonal quarries which carry the turret. The arrangement of the roof, showing different types of tiles, is very attractive from the display point of view, and the execution of the tile hanging to the turret is worth noting. A bizarre or modern effect can be obtained in floors by mixing the various colour shades of "Triton" flooring quarries, and the floor of the stand itself offers suggestions in this direction. The stand shows the result of sympathetic co-operation between sales manager and architect. The builders are Messrs. Martin and Saunders, Ltd., of Kingsway, W.C.

W. H. Willcox and Co., Ltd., N.241.

The "Penberthy" (regd.) automatic cellar or sump drainer, of the automatic water-operated type, for disposal of unwanted water accumulations, is to be seen on this stand; also the electric type. This latter type is operated automatically by electric motor and impeller, and operates only when water accumulates. It immediately ceases action when the water has been disposed of. In the water operated model, the ejector is placed under the float and below water level, thus saving suction lift. It has a radial arm marked from 10 to 100 lb. to suit the varying operating pressures in water supply. Model "L" of the same type is worthy of note.

Samuel Williams and Sons, Ltd., S.299.

This stand is entirely built of reconstructed stone. The front of the building is of natural colour reconstructed Portland stone, showing its possibilities in the raised and cut-in lettering, while in the back the opportunity has been taken of bringing in coloured aggregate and also Bath stone, which shows up the advantages of this modern material. The flood lighting of the stand makes the whole very effective. Further exhibits are reinforced concrete piles, including the company's recent development—hollow pile—in section showing reinforcement skeleton. Examples of reconstructed marble, granolithic work, etc., are also shown together with one set of steppings as recently completed in the Arsenal Football Club's new stand, which enabled the whole of the concrete decking to be erected on the steel work in the short space of six weeks.

Williams and Williams, Ltd., O.250.

This stand displays with ingenuity the many types of "Reliance" metal windows and screens. The design is the work of Mr. Joseph Emberton, F.R.I.B.A., and is obviously the outcome of close study of the firm's windows. The architect has succeeded in the difficult task of making a pleasing composition from a number of units which in normal building would never appear in juxtaposition. The eighteen types of windows and screens are so arranged that their points of superiority can readily be demonstrated. The "Reliance" balance type window should particularly interest those concerned with hospital and school construction, as it is designed to give maximum ventilation without draught, and succeeds in its objects without sacrificing good design. The full display of fittings is also well worth inspection. The pleasing designs of handles and stay bars, the finish of the hinges, the solid construction of the weathering bar, and the excellent examples of machine mitring and electric welding all deserve special examination.

W. C. Youngman, N.244.

A representative display of some of the plant which is manufactured and supplied for the building trade is being shown by this firm. A selection of scaffold poles, boards, putlogs, wire lashes, hemp cords, etc., poling boards, walings, struts, and heavy shoring timber, which can be cut and prepared to any specification, forms one of the principal exhibits. Concrete mixers, stone crushers, pumping sets, cranes, hoists, and similar equipment, on sale or hire, and ladders, trestles, steps, navvy barrows, portable offices, and a wide range of plant of this description, are also shown by the company.

The Stand of Messrs. Williams and Williams.
MR. JOSEPH EMBERTON, F.R.I.B.A., Architect.

VOLUNTARY CONTRACTS

By W. T. CRESWELL, Barrister-at-Law, Hon. A.R.I.B.A., A.S.I., L.M.T.P.I.

In order to create a legal obligation it is necessary, in a simple contract, that there should be included in the matter agreed upon, besides a promise, what is termed a *consideration* for the promise. That is to say, some matter accepted or agreed upon by the parties, as a return, or equivalent, for the promise made; and which serves to show an expression of intention that the transaction between them shall be binding. Writing alone does not render a promise legally binding when there is not a sufficient consideration to support it. It therefore follows that a mere voluntary promise made without a consideration is not binding in law; but such promise can, however, be made legally binding by using the solemnities of a deed, which show and secure a deliberate obligatory intention of the parties to make a binding promise; and this is prescribed for the same purpose as the consideration, along with the promise, in the simple contract already referred to. So also a voluntary bond or covenant made without a consideration is binding in law.

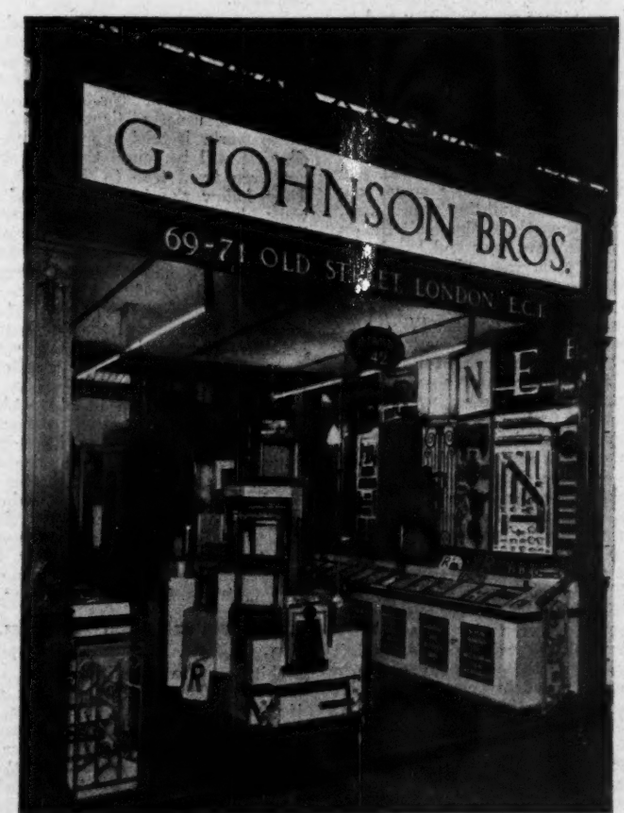
The consideration last mentioned must be intended by both parties as not being gratuitous or voluntary, but executed in respect of an expressed or implied promise. A person therefore undertaking to do work gratuitously or voluntarily is not bound to perform it; and no action can be maintained for services performed when there is an undertaking that no charge for remuneration is to be made; but a parole agreement to give a present, or to allow recompense, raises a legal obligation to a right to a reasonable remuneration and adequate compensation—having regard to the benefit conferred.

Where, in the case of an architect, it is left to his employer to determine what remuneration he is to be paid, then the architect need not accept any amount fixed by the employer, nor need he wait until the employer does fix the amount, but he is entitled to a reasonable remuneration and such as ought to be paid him when he has earned it.

Let it be understood that an architect's right to remuneration rests on an expressed or implied contract to pay what is reasonable only; and that, if there is no contract providing for payment, or no contract that can be enforced, it is always open to the employer to plead that it was the intention that the architect's services should be gratuitous, or that payment should be made at the discretion of the employer only.

LIVERPOOL HOUSING

The Liverpool housing director (Mr. L. H. Keay) has reported to the Housing Committee the completion of 118 tenement dwellings at Dingle-mount and Dingle-lane, at the record low post-war average cost of £429 per dwelling. Direct labour was employed throughout, and the price is the all-in cost, including the construction of boundary walls, paved playgrounds, back streets, as well as plant, administration, overhead charges, etc. The work was completed in eleven and a-half months. It is stated that in the case of the sixty-nine tenements in Beloe-street, erected by the department, the average was £443, while the lowest tender yet received from a private contractor was £464 per tenement. By comparison with the latter figure, the saving at Dingle-mount is £35 per dwelling, or a total of £4,130. It is learned, however, that there is no intention on the part of the Housing Committee to "squeeze out" private enterprise in house-building, the direct labour experiments being meant more as a check on prices. Tenders are now being invited for the erection of 160 tenements on the old abattoir site, 134 tenements in Blackstock-street, Vauxhall-road, and a first batch of 280 houses on the Huyton Farm estate.



The Building Exhibition: Messrs. G. Johnson Bros.' Stand.

(*See page* 521.)

INQUIRY BUREAU

QUESTIONS.

Slaking of Mortar.

Sir,—I was recently in a district out of this country where I found that it was the practice to run lime into putty before mixing into mortar. In this country I believe mixing and slaking are treated as one operation. I should be glad to know which method has an advantage over the other. Wanderer.

Pargetting.

Sir,—Most flues are now parged in cement instead of in lime and cow dung, as was the general practice in the old days. Can you tell me whether there is any defect in the former method, and what results are likely to be detrimental? Chimneys.

Tubular Scaffolding.

Sir,—I should be glad to know whether any small builders have tried tubular scaffolding in ordinary two-story-house building, and whether they have found the outlay worth while in comparison with ordinary methods of poles and ropes. I am aware this system is extensively used now in high town buildings, but have not yet noticed it in the country.

Small Builder.

Wall Ties.

Sir,—I have noticed correspondence relating to the lasting qualities of W.I. wall ties for cavity work, and note that the general opinion is that galvanised ties have lasted very much longer than those untreated. I believe, however, that it was often the practice to tar-and-sand buried metal work, and should be glad to hear from any people who have examined ties known so to be treated, which ties have been in use for a number of years.

T. Brown.

Lime Concrete.

Sir,—I should be glad to hear what experience your correspondents have had of lime concrete. I have recently pulled down a house of which the foundations rested on this type of concrete and found it very poor in consistency and less solid than the actual subsoil. Is this an exceptional experience?

Demolition.

Non-slip Surface.

Sir,—I require advice as to how to form concrete stairs with a non-slip surface. I have contemplated forming in a granite aggregate with a retarder washed on the moulds and then brushing off the finish to a rough surface before the final set. I should be glad to know if this is a sound method. Steps.

Down Draught and Syphonage Problem.

Sir,—I have a house consisting of two flats. The roof consists of a gable in the front and a flat roof at the back. On the flat roof is a stack of two chimneys, one leading to each floor. There is both a down-draught from the gable and a syphonage between the two chimneys. I have had tallboys fitted in the past and they have cured these faults, but it is necessary to renew them again, and I dislike the ugly appearance and the necessity for renewal of these remedies.

Is there any type of pot that would effect a cure, or would it do merely to have two earthenware pots of different heights? (Although this latter is not very sightly, it would be better than tallboys.) If so, what difference in height should be necessary?

H. T. B.

Domes.

Sir,—In studying the section of St. Paul's Cathedral I note that the stone lantern is carried by a sort of conical-shaped dome. Can you tell me of any other instances where the cone-shaped dome has been used, or whether this was an invention of Wren's?

Student.

[Other matter is held over, including an inquiry on the subject of a garage and its boundary line.—Ed.]

THE BUILDING TRADE

HINTS ON BUILDING PRACTICE.—XIII

BY J. R. TAYLOR.

CARPENTRY AND JOINERY REPAIRS AND RENEWALS.

The necessity for early renewal and repair of internal carpentry or joinery work may originate in one or more of the several more usual causes, or it may arise out of other causes not so obvious. Early specification writers emphasised the necessity for using thoroughly dry and well-seasoned timber, but they took it more or less for granted that the building into which the joinery was placed would also be reasonably dry; and as buildings were usually much more slowly erected than is now customary, the necessity for further precautions, though still present, was not so pronounced as is now the case. It was, nevertheless, realised that some movement of timber was all but certain to take place after fixing, and architects when detailing did what they could to give it some controlled freedom; that is to say, wherever possible they provided space into which it could enter and from which it could withdraw without detriment to the stability and appearance of the finished work. And further (as may be seen in church work) they frequently provided means whereby the result of inevitable movement could be to some extent corrected, such as tapered pegs or pins left projecting, so that later on they might be driven home, and so tighten up the shoulders. To-day, in sham half-timbering, these projecting pins are still often made use of where there is no shoulder to tighten, and this affords but one of many instances where the underlying craft motive for some particular form of construction is altogether forgotten, and an imitation of the method is adopted merely as an effect.

Floor Coverings.

It is only in comparatively recent times that machinery has come into general use for the conversion of timber to suitable sizes, planed and in other ways worked up in readiness for use in buildings. But even when all labour, such as tongueing, grooving and rebating, were performed by men using hand tools, it was recognised, for first-class work, that it was desirable to adopt some method of filling the joints between floor boards, and occasionally the edges were rebated to receive fillets, or grooved for loose tongues. Square-edged floor boards make a poor job, and more or less drive the occupants of cheap houses into covering their floors with linoleum, in search of warmth and comfort. When construction is hurried, it is inevitable that the joints of floor boards should open as the building dries out. And if square-edged boards are laid on ground floors and the sub-floor space is adequately ventilated the draught is very severe unless carpets are underlaid with felt. On upper floors, tongued-and-grooved boards are useful in preserving the plastered ceilings under from stains occasioned by accident, as in the event of a vessel being upset the tongues give a little additional time to "mop up." On all floors they hold back the water used for washing, but as the cracks also hold dirt it would be much better to caulk them when they have opened out to their full extent.

If a floor laid with boards is examined after it has been down for a year or so, it will be found that while some of the boards are hollow and have curled upwards at the edge, others may be humped up in the centre. The greater part of the deal floor boards we use are milled abroad and are cut from branch stuff or from trunks not fully grown. They are usually faced on the cleaner side, and some show heart and others sap. Cut out of branch wood they contain many knots, which, under wear, soon stand a little proud of the general surface. All these inequalities of surface are very damaging to carpets, rugs or linoleum. One of the great advantages of using Columbian pine floorings is that they are readily obtainable entirely free from knots and one hundred per cent. rift sawn; and though their first cost is higher than deal, in the long run they are much more economical.

When floor boards are laid in positions subject to continual concentrated traffic wear, as, for instance, behind counters, not only should they be of selected material, but they should be so laid (to pattern) as to be easily taken up for renewal. As a rule, this class of repair has to be undertaken at hours to which overtime rates will apply. Similar considerations apply to other flooring materials—from wood blocks to marble tiles—and the patterning should always have some relation to traffic lines. In offices or other places where the traffic is such as to make it desirable to lay hardwood floor boards, it is better not to enter the ends under skirtings, but to form a border, which, if given early consideration, may be nailed to a piece clapped on to the joist nearest to the walls.

The "speed-up" in building operations has been the cause of much trouble with wood block floorings that have to be laid before the building is dried out. Wood blocks are laid with so close a joint that even the slight swelling brought on by moisture in the air cannot be accommodated, and the blocks "lift." In an effort to get over the difficulty, most specialists have the blocks polished as soon as they are laid, or have some protection given to the surface by coatings of oil; but this does not always prove to be sufficient. Wood block floors should not be laid in new buildings until the latest possible time, and for some months an atmosphere of normal dryness should be maintained by adequate heat and ventilation. Where these are denied, the only thing that can be done is to refuse responsibility and to expose the blocks some little time before laying so that swelling shall take place before instead of after they are in position. Sooner or later, however, architects will be driven to make provision in the bills of quantities for adequate periods of maintained heating, accompanied by forced temporary ventilation. But not all loosening of wood blocks, and particularly when it takes place some considerable time after the building is occupied, is due to damp. Sometimes the fault lies in the floating, which gives way and breaks up under traffic. This is particularly the case where the floating coat is too thin and has been robbed of moisture through want of proper preparation to receive it. When this is found to be the case it is useless to tinker, and the floor should be taken up for renewal. Incidentally, it may be mentioned that if wood blocks are laid tight up against a cavity wall, they may find accommodation by forcing a course of bricks into the cavity. This has happened in one case within my experience where maple floor boards were laid without providing an expansion space under the skirtings. When maple floor boards are laid, it is necessary to have regard to the position of solid hearths and thresholds when fixing the joists, for the side edges of the boards should not come against either. For a room of fair size, about three-quarters-of-an-inch of space between the edges of the maple boards and the walls should be left clear for expansion: that is to say, an inch-and-a-half in all. But in large rooms more space is wanted. and this may involve the provision of skirtings of greater thickness than usual or of special detail. If a quadrant or other form of base moulding is used to cover the gap, it must not be nailed to the boards.

The rising butt hinge may have originated as a device for making doors self-closing, but it is more probable that the object sought was avoidance of the difficulty that arises when a floor is thickly carpeted, but has stained and polished margins. Unless the margin is so wide that a door will swing clear, it has to be shortened so that it may pass over the carpet, or be hung with rising butts. The objection to hanging with rising butts is that if a window is opened the door tends to close with a bang. If, on the other hand, a threshold is introduced between the rebates, people may trip over it. A rather pleasing way of getting over this difficulty with new work is to keep the surface of the boards of rooms to be carpeted a little below that of the floors to corridors or passages serving them, and then form the margins by adding the very thin hardwood boards that are now available. Alternatively, the centre of the room may be laid with inch boards and the margins with thicker boards. If the carpet well thus formed is rather too deep it may be made sufficiently shallow by getting the paper-hanger to paste down several layers of brown paper and the smooth surface thus obtained adds greatly to the life of the carpet or other covering and to the comfort of the user. When, however, the introduction of a threshold cannot be avoided, one of polished metal reflects light, which makes it more noticeable and lessens the danger.

The laying of jointless composition floors in new or existing buildings is work that should usually be passed on to the specialist, and an effective guarantee should be insisted upon. Such floors should never be laid on old deal floors without it being definitely ascertained that the timber is sound and that the sub-floor space is adequately ventilated, and that there is no likelihood of an outbreak of dry rot. If the flue to the fireplace is sluggish it may also be necessary to provide additional ventilation to make good the loss of air inlets that were available at the joints of the boards and at the bottom edge of skirtings.

Skirtings.

At one time skirtings for good jobs were usually rebated at the bottom edge and entered into a groove in the floor-boards. This allowed of shrinkage taking place without opening up a gap. To-day, not only is this precaution usually dispensed with, but on cheap work, if trial is made with a straight edge, it will be found that the skirtings are not even fixed true to line, but are waved. They follow the irregularities of the brickwork, because if the plugs were cut to a line, great thicknesses of dubbing out would have to be laid on by the plasterer. The width of the gap that may form between skirting and floorboard may be very considerable, because the depth of the floor joist, the thickness of the floorboard, and the height of the skirting all bear on the matter. A small quadrant or hollow fillet nailed to the floorboards gives freedom in new work, and bridges the gap in old. Alternatively, in old work, if the gap is of regular depth, wide parting beads may be driven in and skew-nailed with fine oval wire nails; they will at least carry paint better than rags faced up with putty. Wooden skirtings around tiled floors form likely places for an outbreak of dry rot; the water used in washing the floor penetrates below the bottom edge in just about the right quantity to set up conditions for its development.

Architraves and Other Mouldings.

Despite the very insecure way in which architraves are sometimes fixed, those round doorways do not often call for early repair if the plinth blocks are made firm. But those around windows often suffer from ill-usage through having curtain pole or blind rod brackets nailed or screwed to them. When window frames are fixed flush with internal plastering, grounds are often dispensed with, and the architrave, if set only partly on the frame so as to cover the edge of the plasterwork, may then be dependent on nails driven through its lighter members. In such cases

they are apt to split away unless of plain, bold section.

Picture mouldings seldom give trouble unless of the built-up type that embodies a plate rail. But much damage to plastering would be avoided in small houses by fixing picture rails in every room instead of limiting them to the parlour or living room or entirely omitting them. From the property owner's point of view the provision of picture rails tends towards real economy, for they save their first cost over and over again by making it unnecessary to drive so many nails into the walls.

Shelving and Hook Rails.

Many repairs become necessary owing to insecurely fixed fittings. Ordinary plugs driven into walls, and especially new walls containing moisture, will not remain firm when subjected to load. Hat and coat rails in particular should be very securely fixed for, by reason of their height above floor line, they are easily strained by children experiencing difficulty in reaching them. If shelves have not sufficient width the greater load is often borne near the outside edge and leverage then has to be considered. In larders and pantries at least one row of shelving should consist of slate, stone or concrete and be carried on piers or supports taken off the floor. With a little forethought it is by no means difficult to devise secure means of fixing to new work, and in old work undergoing repair Rawlplugs should be substituted for ordinary wooden plugs and be drilled into the solid instead of into the mortar joints. When shelving has to carry exceptional loads, and circumstances do not permit of support from the floor, it may sometimes with advantage have wrought-iron straps fixed to it so as to transfer some of the weight to the ceiling or to a beam put in to serve the purpose. Built-in hanging rails consisting of 1½-in. galvanised steam or water tubes are very useful in larders and sculleries if provided with hooks similar to meat hooks but with blunt points.

(To be continued.)

THE BUILDING RESEARCH STATION

QUESTIONS AND ANSWERS.*

THE following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for general application to all similar problems.

Reduction of Efflorescence on Brickwork.

In order to reduce efflorescence to a minimum an architect proposed to use a cement mortar gauged with blue lias or greystone lime and wished to know the proportion of lime that should be added to effect the purpose in view.

Reply.—Where it is desired to prevent the disfiguration of brickwork by efflorescence it is necessary to avoid the use of a dense mortar joint, and the introduction of more than the smallest possible amount of soluble salts. Since cement is to be used, which itself will develop adequate hydraulic strength in the mortar, it is unnecesary to add a lime having hydraulic properties, and a white hydrated (non-hydraulic) lime might be preferable. The eminently hydraulic limes are often very similar in chemical composition to Portland cements, and in order to obtain the best results with these, or with the greystone limes, care and experience on the part of the operatives is called for.

A suitable mortar may be prepared in the following manner :—One part of cement and three parts hydrated lime, by volume, are thoroughly mixed while dry, and passed through a fine sieve to remove all lumps. A "fat" hydrate should be used, preferably with some guarantee of soundness. This mixture, used in the same manner as cement, is mixed with three parts sand, by volume. The mortar should be used within two hours of gauging and should not be retempered.

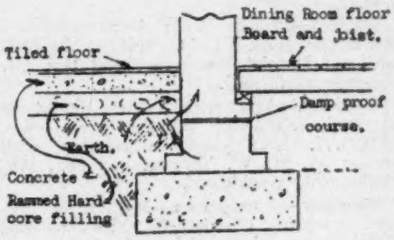
Dry-rot Fungus.

An outbreak of dry-rot fungus was reported in a house where the materials and workmanship were of the best. On inspection it was found that the trouble was due to a defect in construction, which allowed ground moisture to rise in a partition wall above the damp-proof course. The house had been occupied for several years, and the site was stated to be a dry one; the presence of moisture had not been observed before. (NOTE.—A similar case of dampness has already been discussed in this series, but the defect is so very prevalent that there is justification for drawing attention to it again.)

Reply.—The fungus had developed in the bottom shelf of a cupboard formed in a recess in a partition wall between the dining-room, with an oak boarded floor on joists, and the entrance hall, which was floored with tiles on concrete and hard core; it was a very vigorous growth of Merulius Lacrymans which had developed a strong fruiting body and was throwing off spores at a great rate in the form of a reddish coloured powder.

It was found that the partition wall was perceptibly damp to the touch for a height of a few inches above the skirting, although insufficient to cause any serious discoloration of the decorations. The desirability of energetic measures in eradication was appreciated, and there was no especial difficulty in dealing with the outbreak in the ordinary manner. It was strongly urged, however, that an effort should be made to arrest the passage of moisture into the wall, as this was the original cause of the outbreak, and, if unchecked, might lead to fungus attack of the timber flooring on the side away from the cupboard.

The method of construction used in this case is sketched below, the arrows indicate



the path by which moisture was finding its way into the wall.

It is evident in a case of this sort that an efficient vertical dampproof course up to the level of the floor tiles should be provided. It seems quite probable that the damp conditions may have been purely temporary, due to unusually heavy thunderstorms which had occurred recently in the district. It is very often found that abnormal weather conditions reveal deficiencies in the construction of buildings which ordinarily pass unnoticed.

Cracking in Suspended Plaster Ceilings.

A clerk of works required advice on methods of reducing the likelihood of the formation of cracks in plaster to be applied on vaulted ceilings formed in expanded metal lathing. His immediate problem was to plaster the soffit of an arch where expanded metal lathing was suspended on metal rods; this method leaves both finished surface and keyed face of the plaster exposed to air currents which would cause rapid drying out in the initial stages. The inquirer stated that he had previously experienced trouble with cracking of ceilings of this kind.

Reply.—Cracking under the circumstances described is unfortunately a very common occurrence, and, as the problem is seen at present, there is no entirely satisfactory solution which can be offered. The difficulty arises from the fact that the plasters ordinarily used over expanded metal shrink on drying and the shrinkage leads to tensile stresses and cracking. Lime plasters and cement renderings are typical materials which shrink on drying. It is evident that the form of construction suggested leads to severe drying conditions since the plaster is exposed on both sides.

If the expanded metal lathing were continuous and reasonably well embedded in the plaster, it should provide sufficient restraint to prevent the formation of shrinkage cracks. Actually, however, the expanded metal is supplied in small sheets which must be joined. The joints are usually made in a clumsy fashion, and the best that can be expected in the way of continuity across the joints is a rough wire tie. By lapping the expanded metal an abrupt change in the plaster section is formed, and this usually determines the position where the cracks will form.

In order to eliminate any possibility of corrosion of the lathing a lime plaster gauged with Portland cement might be used. A white hydrated lime from a reliable maker, with a guarantee of soundness, should be gauged with Portland cement in the proportion of 1 part by volume of the cement to 3 to 4 parts by volume of the lime. This should be used with as much clean washed sand as it will conveniently carry; excessively fine sand should be avoided. About 1½ to 2 parts by volume of sand to 1 part of the dry lime-cement mix should be used. All material must be used within two hours, and under no circumstances should it be retempered when it has commenced to set.

It must be accepted that a certain amount of cracking will occur, and the obvious procedure is to allow the undercoat to dry thoroughly, and to crack if it must do so, after which the finishing coat will conceal the cracks. For the finishing coat a lime-gauged plaster of Paris would be suitable. Three-coat work, allowing ample time for the undercoats to dry, would be even better.

Most of the difficulties in connection with cracking could be eliminated if it were possible to use a non-shrinking material as exemplified by the calcium sulphate plasters. Unfortunately, these plasters have a corrosive action on steel, and their use on unprotected metal lathing would be out of the question. With adequate protection of the lathing, however, the likelihood of corrosion would be diminished. This would entail vigorous supervision to ensure that the protective coating was made good where injured during erection of the lathing. A lime plaster, liberally gauged with a calcium sulphate plaster of the hemihydrate type and applied over protected metal lathing, should give a finish which might be expected to be almost immune from cracking. Whichever type of plaster is used it will be necessary to adjust any excessive 'suction" before applying the finishing coats.

[Further questions and answers are held over.—ED.]

An Epsom Drainage Scheme.

At a recent meeting of the Epsom Rural District Council, it was reported that at the meeting of the Sanitary Committee a letter was read from Messrs. John Taylor and Sons, consulting engineers, stating, in the matter of the Chessington main drainage scheme, that they had been making careful observations of the sub-soil in order to ascertain the extent to which the soil was impregnated with Epsom Salts, which had a most decomposing effect on concrete and cement, and that the extent of the area affected was much greater than at first expected. They had been in consultation with experts on the matter, who advised that the concrete used in the area affected should be a specially manufactured cement, which was more expensive. The Rural Council gave their consent to the using of this special cement.

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NEW BUILDINGS IN LONDON

Barnes.—ADDITIONS.—For alterations and additions to Methodist Church, Station-road, the Barnes Council has sanctioned the plans by Messrs. A. Brocklehurst and Co.

Barnes.—BUILDINGS.—The Barnes Council has approved plans for special subjects buildings in Lower Richmond-road for the Surrey Education Committee.

Barnsbury-grove, N.—EXCHANGE. — The Pitcher Construction Co., Ltd., 57, Ashburton-grove, N.7, have secured the contract for erection of the "North" telephone exchange, for H.M.O.W.

Bermondsey. — ADDITIONS. — The Roman Catholic Authorities at Dockhead, S.E., have under consideration a scheme for the enlargement of their church by the erection of two side chapel, central porch and two new towers. It is hoped to commence the work shortly, a new school having been recently completed to the designs of Mr. Adrian Gilbert Scott, F.R.I.B.A., 7, Gray's Inn-square, W.C.1.

Chadwell Heath.—ESTATE.—Padnall Estates, Ltd., has just been formed to carry out the development of the Wangey Hall Farm estate and adjoining properties, which will involve the erection of over 1,000 houses and the construction of reinforced concrete roads, sewers, etc. The directors include Mr. A. S. Caink, surveyor, 115, Cranbrook-road, Ilford, Essex, and Mr. G. Percy Trentham, of Messrs. G. Percy Trentham, Ltd., builders, Long-lane, Hillingdon, Uxbridge. The offices of the company are at Wood-lane, Bromford, Birmingham.

Chiswick.—FACTORIES.—Two further sites on the estate in Gunnersbury-avenue, W.4, are to be utilised for the erection of new factories, which will be occupied by the United Water Softeners, Ltd., Aldwych House, W.C.2, and the Comfex Manufacturing Co., Ltd., Wadding Mills, Power-road, W.4. The builders are Messrs. Holland & Hannen and Cubitts, Ltd., 1, Queen Anne's-gate, S.W.1. Steelwork will be by Messrs. Redpath, Brown and Co., Ltd., 3, Duncannon-street, W.C.2. The plans are by the Power Construction Co., Ltd., 19, Grosvenor-place, S.W.

Cleveland-street. — PREMISES. — Messrs. Greenham Excavation Co., Ltd., 671, London-road, Isleworth, are carrying out the demolition of premises in Cleveland-street and Warren-street, W.1, where premises are to be erected by Messrs. W. G. Mitchell and Son, 88, Dulwich-village, S.E.21. Messrs. Constantine and Vernon, 82, Mortimer-street, W.1, are the architects.

Hampstead.—EXTENSIONS.—It is announced that "Ivy House," at North End-road, N.W., formerly the residence of Madame Pavlova, has been acquired by the governors of the Manor House Hospital for adaptation as a women's department. The Hospital hopes to start shortly on the erection of a new wing to the main building, to be used as an operating theatre The architect is Mr. Stanley J. May, 34, Southampton-street, W.C.2.

Hendon.—SCHOOL.—The U.D.C. has placed a contract with Messrs. H. H. and F. Roll, Ltd., 87, High-street, Epsom, for the erection of the Colindale school. Mr. A. O. Knight is the engineer to the Council.

Islington.—OFFICES.—The B.C. has accepted the tender of £1,820 submitted by Messrs. Goddard and Phillips, 47, Lady Somerset-road, N.W.5, for additional office accommodation at the electricity generating station. Mr. E. C. P. Monson, F.R.I.B.A., Finsbury Pavement House, 120, Moorgate, E.C.2, is the architect.

Lewisham.—REBUILDING.—Messrs. Runham, Brown Bros., 109, Down's-road, E.5, have secured the contract for rebuilding 219 to 221, High-street. Messrs. Dowton and Co., 125, Pall Mall, S.W.1, are the architects.

Leyton.—FLATS.—Messrs. J. E. Billings and Co., Ltd., 39, Victoria-street, S.W.1, have been awarded the building contract for 48 flats on the White House estate, Leyton Green-road, and 12 flats in Jesse-road, E.10. The plans are by the Borough Engineer, Mr. H. A. Howell.

Marylebone.—PREMISES.—A new company, called Foster's Properties, Ltd., 73, Basinghall-street, E.C.2, has been formed to acquire the sites of Nos. 46-48, Foley-street, and 7-9, Union-street, W.1, with a view to the erection of modern premises. The plans have been prepared by Messrs. H. V. Ashley and F. Winton Newman, FF.R.I.B.A., 14, Gray's Inn-square, W.C.1.

Neasden.—ESTATE.—A start is about to be made upon the development of the Neasden Park estate, Neasden-lane, N.W., where a number of houses are to be built. The scheme is in the hands of Neasden Builders, Ltd., Neasden-lane, N.W.10, who have prepared their own plans.

Neasden.—GARAGES.—Plans have been prepared by Mr. S. W. Brimson, of 105, Bathurst-gardens, N.W.10, for five garages for Mr. S. Blincow, of Normansmead.

Poplar.—FLATS.—Mr. Ian B. Hamilton, F.R.I.B.A., 16, Old-buildings, Lincoln's Inn, W.C.2, is the architect for the conversion of an old public-house in High-street into flats, for the Bethnal Green and East London Housing Association, Ltd., 21, Old Ford-road, E.2.

South Kensington. — ALTERATIONS. — For alterations to 58, Queen's-gate, S.W.7, Messrs. Marchant, Hirst and Co., 136, Highgate-road, N.W.5, are the builders; while the plans have been prepared by Mr. G. Alan Fortescue, F.R.I.B.A., 30, Bedford-square, W.C.1.

Thornton Heath.—REBUILDING.—Messrs. F. Broomfield, Ltd., bakers, have adopted plans for the rebuilding of their large bakeries, etc., at Whitehorse-road, S.E. The work, which will be undertaken by direct labour, will be supervised by Mr. Charles Lewin, surveyor, 9, Cherry Orchard-road, Croydon.

Upper Richmond-road. — GARAGES. — The Barnes Council has approved plans for 53 garages at the rear of 284-286, Upper Richmond-road, by Messrs. Dixon and Sons, for Mr. J. H. Bush.

Wandsworth.—EXTENSIONS.—Mr. Edward Barrs, paper mills consultant, 10, Gray's Inn-place, W.C.1, has prepared plans for development of Messrs. Hugh Stevenson and Sons' premises at Summerstown Works, S.W.17.

Watford.—HOME.—We understand that a new nurses' home is to be erected at the Watford and District Peace Memorial Hospital, Rickmansworth-road.

Wembley.—ALTERATIONS.—For alterations to engineer's office at the post office, H.M.O.W. have placed a contract with Messrs A. H. W. Todman and Son, 57a, High-street, Wealdstone.

Wembley.—EXTENSIONS.—Mr. H. B. Milner, consulting chemist, 92, Victoria-street, S.W.1, has acquired adjoining land for extension to the Geochemical, Petroleum and Asphalt Testing and Research Laboratories. The plans have been prepared by Sir Frank Baines, F.R.I.B.A., 13, Dean's-yard, Westminster, S.W. No contracts have been placed yet.

West Croydon.—ADDITIONS.—Also alterations are to be shortly put in hand at the West Croydon Congregational Church, costing about £4,000, for the Rev. E. W. Coltman. Plans have been prepared by Mr. Victor Wilkins, F.R.I.B.A., York-buildings, Adelphi, W.C.2.

West Croydon.—BANK.—At the railway station in London-road, the National Provincial Bank, Ltd., are to have new premises. Mr. F. C. R. Palmer, F.R.I.B.A., the bank's architect, has prepared the plans, while the building work has been entrusted to Messrs. James Smith and Son (Norwood), Ltd., Carmichael-road, S.E.25.

West Wickham.—HOTEL.—Wickham Court is to be reconstructed as an hotel, for Mr. A. D. Sanderson. The architect is Mr. H. Mackintosh, Imperial-buildings, Croydon. No building contract has yet been settled.

Whitechapel.—HOSTEL.—At the Quarterly Court of the London Hospital, Whitechapel-road, E.1, it was announced by the chairman, Sir William Goschen, that it had been decided to make a start on a section of the scheme for the erection of a new students' hostel the total cost of which was estimated at £30,000. Plans for new private wards for paying patients are also under consideration. The architect to the hospital is Mr. J. G. Oatley, F.R.I.B.A.

Worcester Park.—SHOPS.—Messrs. A. H. Moore and Dartnall, 11, Dowgate Hill, E.C.4, are the architects for new shops on the site of old St. Philip's Schools.

NEW CINEMAS

Birkenhead.—It is stated that plans for the conversion of the Hippodrome Theatre, Birkenhead, into a talkie hall have been approved by the Birkenhead licensing justices.

Clacton-on-Sea.—Plans have now been approved, and tenders will be shortly asked for, in connection with the proposed new cinema at the corner of Pier-avenue and Old-road. Accommodation will be provided for about 1,900 persons, whilst the plans also include several shops with flats in the upper floors. The architect is Mr. G. H. B. Gould, A.R.I.B.A., Hurlingham-chambers, Station-road, Clacton-on-Sea.

Coventry.—The building contract has been let to Messrs. W. H. Jones and Son, Ltd., of Coventry, and that for steel work to Redpath, Brown, Ltd., Glasgow, in connection with the rebuilding of the "Empire," for Associated British Cinemas, Ltd. Plans have been prepared by Mr. W. Glen, architect to the company, Heddon House, Regent-street, W., for a building to seat 1,600.

Crewe.—The T.C. has passed plans for alterations to the Queen's Hall Cinema, High-street, for Mr. H. A. Wilcox.

Dorchester.—Albany Ward Theatres, Ltd., an associated company of P.C.T., Ltd., and Gaumont-British Picture Corporation, Ltd., of 123, Regent-street, W.1, are considering the extension or rebuilding of the Palace Cinema. If the construction of a new cinema is agreed upon, plans will be prepared in the architects' department of Gaumont-British Picture Corporation, Ltd., by Mr. W. E. Trent, F.S.I., architect to the company, 123, Regent-street, W.1.

Edmonton.—It is understood that work will shortly commence upon the super-cinema for Mr. A. E. Abrahams on a site at Fore-street and Silver-street, Edmonton. The cinema, which will hold 2,900, has been planned by Mr. Clifford Aish, F.S.I., 22, Bedford-street, W.C.2. A café, car park and amusement park are planned in conjunction. No details as regards the contract are yet available.

Manchester.—Plans for rebuilding the Capitol Cinema, East Didsbury, which was gutted by fire earlier this year, have been approved by the Manchester Town Planning Committee. Plans have been prepared by Mr. P. Cummings, A.R.I.B.A., 51, King-street, Manchester.

Penrith (Cumberland).—The directors of the Penrith Alhambra Theatre and Picture House have decided to proceed with the building of a new cinema near Messrs. Woolworth's premises. Plans are being taken out by Mr. R. Deans, of Burnley, Lancashire.

Swansea.—Mr. Leslie Joseph is considering the erection of a temporary cinema on land adjoining the reservoir at Townhill.

Tiverton. Plans have been prepared by Capt. Dixon, 25, St. Peter-street, Tiverton, for the new picture theatre in Fore-street, for Messrs. Eastmond and Hamlin, Tiverton. The building will have accommodation for about 500 seats.

Weymouth.—Plans are shortly to be prepared for structural alterations to the Belle Vue Cinema, for Albany Ward Theatres, Ltd., who are an associate company of the P.C.T., Ltd., 123, Regent-street, W.1. It is probable that plans may be prepared by Mr. W. E. Trent, F.S.I., architect to the company.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1932.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Accrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aldershot	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Alfreton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Alnwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Altrincham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ashford (Kent)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ashington	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ashton-under-Lyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aylsham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Banbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Barnsley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barnstaple	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Barrow-in-Furness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Basingstoke	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bath	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bedford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Berwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bexhill	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Birkenhead	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Birmingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bishop Auckland	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Blackburn	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blackpool	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bognor Regis	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bolton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bradford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford-on-Avon	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Braintree	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Brentwood	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bridlington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brighton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bristol	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromsgrove	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bromyard	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Bungay	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Burnley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Burton-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury St. Edmunds	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Buxton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cambridge	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Canterbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Cardiff	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Carlisle	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chatham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Chelmsford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Cheltenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chesterfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chorley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cirencester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Clacton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Colchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Coventry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cranbrook	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Crewe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cromer	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Darlington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Deal	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Denbigh	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Derby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Devizes	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Dewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Doncaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dorchester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Dorking	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Dovercourt	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Driffield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Droitwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dudley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Durham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
E.Glam.(Mon.Val.)	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ely	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Exeter	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Exmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Fakenham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Felixstowe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Folkestone	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Frome	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Glossop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gloucester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Godalming	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Goole	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Gosport	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grantham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gt. Yarmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Grimsby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Guildford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Halifax	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harpenden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Harrogate	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hartlepools	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harwich	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Hastings	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Hatfield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hednesford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hereford	1/4	1/4	1/4	1/4	1/4	1/3	1/3	1/0
Herne Bay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Hertford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hitchin	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hoddesdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Holt	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Huddersfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hull	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hunstanton	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huntingdon	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Isle of Wight	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ipswich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Keighley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kettering	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kidderminster	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kings Lynn	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Lancaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leamington Spa	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Leeds	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leicester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leighton Buzzard	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Lichfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Lincoln	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Littlehampton	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Liverpool	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Llandudno	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Llanelly	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
London—								
12 m. radius	1/7½	1/7½	1/7½	*	1/7½	1/7½	1/6½	1/2½
12-15 m. radius	1/7	1/7	1/7	*	1/7	1/7	1/6	1/2½
Loughborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lowestoft	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Luton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Macclesfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Maidstone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Malvern	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Manchester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Mansfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Margate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Market Harborough	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Matlock	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Melton Constable	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Melton Mowbray	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Merthyr Tydfil	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Middlesbrough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newark	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Newbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newcastle-on-Tyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newcastle-u-Lyme	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
New Forest	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newport, Mon.	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Northampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Norwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Nottingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nuneaton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oakham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Oldham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Paignton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Peterborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Pontypridd	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Preston	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ramsgate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Redcar	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redditch	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Reigate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Retford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ripon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rochdale	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Rugby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Saffron Walden	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
St. Albans	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
St. Helens	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sawbridgeworth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Saxmundham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Scarborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sevenoaks	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Sheffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Shrewsbury	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sittingbourne	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
South Shields	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stevenage	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Stockport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stockton-on-Tees	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stoke-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stourbridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stourport	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stowmarket	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Stratford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stroud	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/-
Sunderland	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swaffham	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Swansea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swindon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tamworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Taunton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Thetford	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Torquay	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Totnes	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/-
Trowbridge	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Tunbridge Wells	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Uttoxeter	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Wakefield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsall	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsden	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warminster	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Warrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wells (Norfolk)	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Welwyn Gar. City	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
West Bromwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weston-super-Mare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Weymouth	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Whitby	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wigan	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Winchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wisbech	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Wolverhampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Woodbridge	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Worcester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Worksop	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worthing	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wrexham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wycombe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wymondham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
York	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½

*The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, as and from the 1st June, 1932, is 1/9 per hour.

For Building Trade wages in Scotland, see page 534.

NEW BUILDINGS IN LONDON

Barnes.—ADDITIONS.—For alterations and additions to Methodist Church, Station-road, the Barnes Council has sanctioned the plans by Messrs. A. Brocklehurst and Co.

Barnes.—BUILDINGS.—The Barnes Council has approved plans for special subjects buildings in Lower Richmond-road for the Surrey Education Committee.

Barnsbury-grove, N.—EXCHANGE. — The Pitcher Construction Co., Ltd., 57, Ashburton-grove, N.7, have secured the contract for erection of the "North" telephone exchange, for H.M.O.W.

Bermondsey. — ADDITIONS. — The Roman Catholic Authorities at Dockhead, S.E., have under consideration a scheme for the enlargement of their church by the erection of two side chapel, central porch and two new towers. It is hoped to commence the work shortly, a new school having been recently completed to the designs of Mr. Adrian Gilbert Scott, F.R.I.B.A., 7, Gray's Inn-square, W.C.1.

Chadwell Heath.—ESTATE.—Padnall Estates, Ltd., has just been formed to carry out the development of the Wangey Hall Farm estate and adjoining properties, which will involve the erection of over 1,000 houses and the construction of reinforced concrete roads, sewers, etc. The directors include Mr. A. S. Caink, surveyor, 115, Cranbrook-road, Ilford, Essex, and Mr. G. Percy Trentham, of Messrs. G. Percy Trentham, Ltd., builders, Long-lane, Hillingdon, Uxbridge. The offices of the company are at Wood-lane, Bromford, Birmingham.

Chiswick.—FACTORIES.—Two further sites on the estate in Gunnersbury-avenue, W.4, are to be utilised for the erection of new factories, which will be occupied by the United Water Softeners, Ltd., Aldwych House, W.C.2, and the Comfex Manufacturing Co., Ltd., Wadding Mills, Power-road, W.4. The builders are Messrs. Holland & Hannen and Cubitts, Ltd., 1, Queen Anne's-gate, S.W.1. Steelwork will be by Messrs. Redpath, Brown and Co., Ltd., 3, Duncannon-street, W.C.2. The plans are by the Power Construction Co., Ltd., 19, Grosvenor-place, S.W.

Cleveland-street. — PREMISES. — Messrs. Greenham Excavation Co., Ltd., 671, London-road, Isleworth, are carrying out the demolition of premises in Cleveland-street and Warren-street, W.1, where premises are to be erected by Messrs. W. G. Mitchell and Son, 88, Dulwich-village, S.E.21. Messrs. Constantine and Vernon, 82, Mortimer-street, W.1, are the architects.

Hampstead.—EXTENSIONS.—It is announced that "Ivy House," at North End-road, N.W., formerly the residence of Madame Pavlova, has been acquired by the governors of the Manor House Hospital for adaptation as a women's department. The Hospital hopes to start shortly on the erection of a new wing to the main building, to be used as an operating theatre The architect is Mr. Stanley J. May, 34, Southampton-street, W.C.2.

Hendon.—SCHOOL.—The U.D.C. has placed a contract with Messrs. H. H. and F. Roll, Ltd., 87, High-street, Epsom, for the erection of the Colindale school. Mr. A. O. Knight is the engineer to the Council.

Islington.—OFFICES.—The B.C. has accepted the tender of £1,820 submitted by Messrs. Goddard and Phillips, 47, Lady Somerset-road, N.W.5, for additional office accommodation at the electricity generating station. Mr. E. C. P. Monson, F.R.I.B.A., Finsbury Pavement House, 120, Moorgate, E.C.2, is the architect.

Lewisham.—REBUILDING.—Messrs. Runham, Brown Bros., 109, Down's-road, E.5, have secured the contract for rebuilding 219 to 221, High-street. Messrs. Dowton and Co., 125, Pall Mall, S.W.1, are the architects.

Leyton.—FLATS.—Messrs. J. E. Billings and Co., Ltd., 39, Victoria-street, S.W.1, have been awarded the building contract for 48 flats on the White House estate, Leyton Green-road, and 12 flats in Jesse-road, E.10. The plans are by the Borough Engineer, Mr. H. A. Howell.

Marylebone.—PREMISES.—A new company, called Foster's Properties, Ltd., 73, Basinghall-street, E.C.2, has been formed to acquire the sites of Nos. 46-48, Foley-street, and 7-9, Union-street, W.1, with a view to the erection of modern premises. The plans have been prepared by Messrs. H. V. Ashley and F. Winton Newman, FF.R.I.B.A., 14, Gray's Inn-square, W.C.1.

Neasden.—ESTATE.—A start is about to be made upon the development of the Neasden Park estate, Neasden-lane, N.W., where a number of houses are to be built. The scheme is in the hands of Neasden Builders, Ltd., Neasden-lane, N.W.10, who have prepared their own plans.

Neasden.—GARAGES.—Plans have been prepared by Mr. S. W. Brimson, of 105, Bathurst-gardens, N.W.10, for five garages for Mr. S. Blincow, of Normansmead.

Poplar.—FLATS.—Mr. Ian B. Hamilton, F.R.I.B.A., 16, Old-buildings, Lincoln's Inn, W.C.2, is the architect for the conversion of an old public-house in High-street into flats, for the Bethnal Green and East London Housing Association, Ltd., 21, Old Ford-road, E.2.

South Kensington. — ALTERATIONS. — For alterations to 58, Queen's-gate, S.W.7, Messrs. Marchant, Hirst and Co., 136, Highgate-road, N.W.5, are the builders; while the plans have been prepared by Mr. G. Alan Fortescue, F.R.I.B.A., 30, Bedford-square, W.C.1.

Thornton Heath.—REBUILDING.—Messrs. F. Broomfield, Ltd., bakers, have adopted plans for the rebuilding of their large bakeries, etc., at Whitehorse-road, S.E. The work, which will be undertaken by direct labour, will be supervised by Mr. Charles Lewin, surveyor, 9, Cherry Orchard-road, Croydon.

Upper Richmond-road. — GARAGES. — The Barnes Council has approved plans for 53 garages at the rear of 284-286, Upper Richmond-road, by Messrs. Dixon and Sons, for Mr. J. H. Bush.

Wandsworth.—EXTENSIONS.—Mr. Edward Barrs, paper mills consultant, 10, Gray's Inn-place, W.C.1, has prepared plans for development of Messrs. Hugh Stevenson and Sons' premises at Summerstown Works, S.W.17.

Watford.—HOME.—We understand that a new nurses' home is to be erected at the Watford and District Peace Memorial Hospital, Rickmansworth-road.

Wembley.—ALTERATIONS.—For alterations to engineer's office at the post office, H.M.O.W. have placed a contract with Messrs A. H. W. Todman and Son, 57a, High-street, Wealdstone.

Wembley.—EXTENSIONS.—Mr. H. B. Milner, consulting chemist, 92, Victoria-street, S.W.1, has acquired adjoining land for extension to the Geochemical, Petroleum and Asphalt Testing and Research Laboratories. The plans have been prepared by Sir Frank Baines, F.R.I.B.A., 13, Dean's-yard, Westminster, S.W. No contracts have been placed yet.

West Croydon.—ADDITIONS.—Also alterations are to be shortly put in hand at the West Croydon Congregational Church, costing about £4,000, for the Rev. E. W. Coltman. Plans have been prepared by Mr. Victor Wilkins, F.R.I.B.A., York-buildings, Adelphi, W.C.2.

West Croydon.—BANK.—At the railway station in London-road, the National Provincial Bank, Ltd., are to have new premises. Mr. F. C. R. Palmer, F.R.I.B.A., the bank's architect, has prepared the plans, while the building work has been entrusted to Messrs. James Smith and Son (Norwood), Ltd., Carmichael-road, S.E.25.

West Wickham.—HOTEL.—Wickham Court is to be reconstructed as an hotel, for Mr. A. D. Sanderson. The architect is Mr. H. Mackintosh, Imperial-buildings, Croydon. No building contract has yet been settled.

Whitechapel.—HOSTEL.—At the Quarterly Court of the London Hospital, Whitechapel-road, E.1, it was announced by the chairman, Sir William Goschen, that it had been decided to make a start on a section of the scheme for the erection of a new students' hostel the total cost of which was estimated at £30,000. Plans for new private wards for paying patients are also under consideration. The architect to the hospital is Mr. J. G. Oatley, F.R.I.B.A.

Worcester Park.—SHOPS.—Messrs. A. H. Moore and Dartnall, 11, Dowgate Hill, E.C.4, are the architects for new shops on the site of old St. Philip's Schools.

NEW CINEMAS

Birkenhead.—It is stated that plans for the conversion of the Hippodrome Theatre, Birkenhead, into a talkie hall have been approved by the Birkenhead licensing justices.

Clacton-on-Sea.—Plans have now been approved, and tenders will be shortly asked for, in connection with the proposed new cinema at the corner of Pier-avenue and Old-road. Accommodation will be provided for about 1,900 persons, whilst the plans also include several shops with flats in the upper floors. The architect is Mr. G. H. B. Gould, A.R.I.B.A., Hurlingham-chambers, Station-road, Clacton-on-Sea.

Coventry.—The building contract has been let to Messrs. W. H. Jones and Son, Ltd., of Coventry, and that for steel work to Redpath, Brown, Ltd., Glasgow, in connection with the rebuilding of the "Empire," for Associated British Cinemas, Ltd. Plans have been prepared by Mr. W. Glen, architect to the company, Heddon House, Regent-street, W., for a building to seat 1,600.

Crewe.—The T.C. has passed plans for alterations to the Queen's Hall Cinema, High-street, for Mr. H. A. Wilcox.

Dorchester.—Albany Ward Theatres, Ltd., an associated company of P.C.T., Ltd., and Gaumont-British Picture Corporation, Ltd., of 123, Regent-street, W.1, are considering the extension or rebuilding of the Palace Cinema. If the construction of a new cinema is agreed upon, plans will be prepared in the architects' department of Gaumont-British Picture Corporation, Ltd., by Mr. W. E. Trent, F.S.I., architect to the company, 123, Regent-street, W.1.

Edmonton.—It is understood that work will shortly commence upon the super-cinema for Mr. A. E. Abrahams on a site at Fore-street and Silver-street, Edmonton. The cinema, which will hold 2,900, has been planned by Mr. Clifford Aish, F.S.I., 22, Bedford-street, W.C.2. A café, car park and amusement park are planned in conjunction. No details as regards the contract are yet available.

Manchester.—Plans for rebuilding the Capitol Cinema, East Didsbury, which was gutted by fire earlier this year, have been approved by the Manchester Town Planning Committee. Plans have been prepared by Mr. P. Cummings, A.R.I.B.A., 51, King-street, Manchester.

Penrith (Cumberland).—The directors of the Penrith Alhambra Theatre and Picture House have decided to proceed with the building of a new cinema near Messrs. Woolworth's premises. Plans are being taken out by Mr. R. Deans, of Burnley, Lancashire.

Swansea.—Mr. Leslie Joseph is considering the erection of a temporary cinema on land adjoining the reservoir at Townhill.

Tiverton. Plans have been prepared by Capt. Dixon, 25, St. Peter-street, Tiverton, for the new picture theatre in Fore-street, for Messrs. Eastmond and Hamlin, Tiverton. The building will have accommodation for about 500 seats.

Weymouth.—Plans are shortly to be prepared for structural alterations to the Belle Vue Cinema, for Albany Ward Theatres, Ltd., who are an associate company of the P.C.T., Ltd., 123, Regent-street, W.1. It is probable that plans may be prepared by Mr. W. E. Trent, F.S.I., architect to the company.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1932.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Accrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aldershot	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Alfreton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Alnwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Altrincham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ashford (Kent)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ashington	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ashton-under-Lyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Aylsham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Banbury	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Barnsley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barnstaple	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Barrow-in-Furness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Barry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Basingstoke	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bath	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bedford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Berwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bexhill	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Birkenhead	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Birmingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bishop Auckland	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Blackburn	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Blackpool	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bognor Regis	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bolton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bournemouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bradford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford-on-Avon	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Braintree	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Brentwood	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bridgwater	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bridlington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brighton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bristol	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromsgrove	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bromyard	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Bungay	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Burnley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Burton-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bury St. Edmunds	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Buxton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cambridge	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Canterbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Cardiff	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Carlisle	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chatham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Chelmsford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Cheltenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chesterfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chorley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cirencester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Clacton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Colchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Coventry	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cranbrook	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Crewe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cromer	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Darlington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Deal	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Denbigh	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Derby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Devizes	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Dewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Doncaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Dorchester	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Dorking	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Dovercourt	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Driffield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Droitwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Dudley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Durham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Eastbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
E.Glam.(Mon. Val.)	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ely	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Exeter	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Exmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Fakenham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Felixstowe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Folkestone	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Frome	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Glossop	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gloucester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Godalming	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Goole	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Gosport	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grantham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gt. Yarmouth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Grimsby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Guildford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Halifax	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harpenden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Harrogate	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hartlepools	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Harwich	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Hastings	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Hatfield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hednesford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hereford	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Herne Bay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Hertford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hitchin	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hoddesdon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Holt	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Huddersfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hull	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hunstanton	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huntingdon	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Isle of Wight	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Ipswich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Keighley	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kettering	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kidderminster	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Kings Lynn	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Lancaster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leamington Spa	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Leeds	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leicester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leighton Buzzard	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Lichfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Lincoln	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Littlehampton	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Liverpool	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Llandudno	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Llanelly	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
London—								
12 m. radius	1/7½	1/7½	1/7½	*	1/7½	1/7½	1/6½	1/2½
12-15 m. radius	1/7	1/7	1/7	*	1/7	1/7	1/6	1/2½
Loughborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lowestoft	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Luton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Macclesfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Maidstone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Malvern	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Manchester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Mansfield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Margate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Market Harborough	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Matlock	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Melton Constable	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Melton Mowbray	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Merthyr Tydfil	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Middlesbrough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newark	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Newbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newcastle-on-Tyne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Newcastle-u-Lyme	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
New Forest	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Newport, Mon.	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Northampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Norwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Nottingham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nuneaton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oakham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Oldham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Oxford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Paignton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Peterborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Plymouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Pontypridd	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Portsmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Preston	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Ramsgate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Reading	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Redcar	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redditch	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Reigate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Retford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ripon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rochdale	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Rugby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Saffron Walden	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
St. Albans	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
St. Helens	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sawbridgeworth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Saxmundham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Scarborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sevenoaks	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Sheffield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Shrewsbury	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sittingbourne	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Southampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southend-on-Sea	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Southport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
South Shields	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stevenage	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Stockport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stockton-on-Tees	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stoke-on-Trent	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stourbridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/0½
Stourport	1/5	1/5	1/5	1/5	1/5	1/5	1/5	11
Stowmarket	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Stratford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stroud	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/-
Sunderland	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swaffham	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Swansea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Swindon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tamworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Taunton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Thetford	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Torquay	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Totnes	1/4	1/4	1/4	1/4	1/4	1/4	1/3½	1/-
Trowbridge	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Tunbridge Wells	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Uttoxeter	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Wakefield	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsall	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Walsden	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warminster	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Warrington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Warwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wells (Norfolk)	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Welwyn Gar. City	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
West Bromwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weston-super-Mare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Weymouth	1/3	1/3	1/3	1/3	1/3	1/3	1/2	11½
Whitby	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wigan	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Winchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Windsor	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wisbech	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Wolverhampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Woodbridge	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Worcester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Worksop	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worthing	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Wrexham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wycombe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wymondham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
York	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½

*The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, as and from the 1st June, 1932, is 1/9 per hour.

For Building Trade wages in Scotland, see page 534.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

SEPTEMBER 28.

Aldershot.—Alterations.—To Post Office, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1.

Darlington.—Alterations.—Also additions to Grammar school, for Corporation. E. Minors, B.S. Dep. £1 1s.

Doddington.—Alterations.—Also additions to casual wards at Institution, for Isle of Ely C.C. R. S. W. Perkins, C.S., County Hall, March.

East Sussex.—Repainting.—Of 14 steel bridges, for C.C. H. E. Lunn, C.S., County Hall, Lewes. Dep. £5

Howden.—Houses.—4 non-parlour type houses at Aughton, 2 similar houses at Staddlethorpe, E. Yorks, for R.D.C. F. Turner, architect, Carlisle-st., Goole. Dep. £1 1s.

Liverpool.—Dwellings.—In Gill-st. and Trowbridge-st., for Corporation. Town Clerk, Municipal-bldgs., Dale-st. Dep. £2 2s.

Liverpool.—Dwellings.—In Blackstock-st., for Corporation. Town Clerk, Municipal-bldgs., Dale-st. Dep. £2 2s.

Liverpool.—Houses.—On Huyton Farm estate. Town Clerk, Municipal Offices, Dale-st. Dep. £1 1s.

Looe.—Additions.—Alterations and addition of 2 new wings to Rock Towers Hotel, Hannafore estate, for H. P. Stokes. G. Lester Cook, architect, Fore-st.

***Middlesbrough.**—Emmerson County School.—For Middlesbrough Education Dept. Dep. £2 2s. Director of Education, Education Offices, Middlesbrough.

Prestwich.—Painting.—Exterior painting and graining of 54 of Council houses on Bent Hill estate, for U.D.C. E. and S.

SEPTEMBER 29.

Bangor.—School.—New central school at Bangor. Westbury Lloyd Jones, County Architect, Caernarvon. Dep. £2 2s.

Manchester.—School.—Benchill Municipal School, Wythenshawe, for E.C. Surveyor's Department, Education Offices, Deansgate. Dep. £2 2s.

Plymouth.—Demolition.—Of premises at Commercial-rd. and Commercial-wharf, for T.C. J. Wibberley, City E. Dep. £1 1s.

Portmadoc.—Additions.—Alterations and additions to Portmadoc County School. Westbury Lloyd Jones, County Architect, Caernarvon. Dep. £2 2s.

SEPTEMBER 30.

Blackheath.—Office.—Booking office at Rowley Regis and Blackheath Station, Staffs. for G.W.R. Engineer, Paddington Station. Dep. £2 2s.

Downham.—Wards.—New casual wards adjoining the Poor Law Institution, for Public Health and Assistance Committee of Norfolk C.C. C. J. Norton, A.R.I.B.A., architect, Stracey-rd., Norwich. Dep. £1 1s.

London.—Station.—Transport service station at Paddington Station, for G.W.R. Engineer, Paddington Station, W.2. Dep. £2 2s.

Seaham Harbour.—Building.—Erection of Seaham Harbour, Camden-sq., intermediate Council school and Seaham intermediate Council school, for Durham County E.C. F. Willey, F.R.I.B.A., 34, Old Elvet, Durham.

Southport.—Houses.—Houses near Guildford-rd., for Corporation. A. E. Jackson, B.E. Dep. £1 1s.

OCTOBER 1.

Ardee.—Installation.—Electrical installation of Mental Hospital, Ardee, for Committee of Management of Louth C.C. J. P. Tierney & Co., consulting engineers, 44, Kildare-st., Dublin, C.17. Dep. £5 5s.

Long Crendon.—Cottages.—8 at Shabbington, for R.D.C. A. J. Webb, architect, The Cottage, Long Crendon, Thame. Dep. £1 1s.

OCTOBER 3.

Aldershot.—Houses.—24 semi-detached, Whyteav. and Guildford-rd., for Aldershot T.C. T.C., Municipal-bldgs. Dep. 10s.

Bollington.—Conversion.—Of Brook Bank House into Council offices, and for the outbuilding into a first-aid fire station, for U.D.C. H. O. Farmer, L.R.I.B.A., chartered architect, 102, Brock-st., Macclesfield. Dep. £2 2s.

Chelmsford.—Additions and Alterations.—To Nurses' Home, for Essex C.C. County Architect, County Hall, Chelmsford. Dep. £2 2s.

Copplestone.—Hall.—Village hall, E. Chell, Tors View, Barnstaple Cross, Crediton.

Ealing.—Fire Station.—For Borough of Ealing. T.C., Town Clerk's Office, Town Hall, Ealing, W.5. Dep. £3 3s.

Sunbury-on-Thames.—Houses.—8, on land adjoining Halfway Cottages, Upper Halliford, for U.D.C. Harold F. Coales, S. Dep. £2 2s.

OCTOBER 4.

Ebbw Vale.—Workshop.—Manual instruction room, metal workshop, etc., at mining centre, Ebbw Vale, for Monmouthshire E.C. John Bain, F.R.I.B.A., County Hall, Newport, Mon. Dep. £2 2s.

Leicester.—Heating.—Accelerated low pressure hot water heating at Employment Exchange, Charles-st., for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s

Wigston.—Housing.—12 houses, Marstown-av., South Wigston, for U.D.C. G. F. Stacey, E. and S. Dep. £1 1s.

Yiewsley and West Drayton.—Cottages.—38 non-parlour cottages at Falling-lane, Yiewsley, for U.D.C. W. T. Morgan, S. Dep. £2 2s.

OCTOBER 5.

Clacton.—Conveniences.—Opposite Connaught-gdns., East Cliff, for U.D.C. W. Aiston, S. Dep. £2.

Co. Limerick.—Schools.—Erection and completion of technical schools at Newcastle West, and Hospital, Co. Limerick, for Co. Limerick Vocational E.C. Sheaham & Cleary, architects Cecil-chams., Limerick

Reading, Bucks.—Telephone Exchange.—At Earley, for H.M.O.W. Contracts Branch, H.M.O.W., King Charles-st., London, S.W.1. Dep. £1 (cheques payable to the Commissioners, H.M. Office of Works).

OCTOBER 6.

Harrogate.—Building.—Tea house and promenade, Valley-gardens, for T.C. C. E. Rivers, B.E. and S. Dep. £2 2s.

London.—Heating.—Low pressure hot water heating at Employment Exchange, Lewisham, S.E., for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1.

OCTOBER 7.

Manchester, Newton Heath.—Flats.—For City of Manchester. Housing Director, Town Hall. Dep. £2 2s.

Stromness.—Houses.—12, Ness-st., for T.C. J. E. P. Robertson, T.C.

OCTOBER 8.

Glamorgan.—Wiring.—Wiring and fitting new admission block, convalescent home, nurses' hostel, and medical officer's residence at Penyfai, near Bridgend, for electric lighting and power, for C.C. W. Gough Jenkins, Clerk to the Committee of Visitors, Glamorgan County Hall, Cardiff.

***Newmarket.**—Houses.—In various parishes, for Newmarket R.D.C. Clerk, Council Offices, White Lodge, Exning Road, Newmarket. Dep. £2 2s.

OCTOBER 10.

***Carlisle.**—Houses.—For the R.D.C. Clerk, 7, Victoria-pl., Carlisle. Dep. £1 1s.

Dublin.—Dwellings.—32 flat dwellings at Cuffe-st. and Upper Mercer-st., Crabbe-lane area, for Corporation. Housing Architect. Dep. £5 5s.

North Elmsall.—House.—Whole or separate tenders, new school and caretaker's house at Harewood-lane, North Elmsall, for West Riding C.C. Education Officer, County Hall, Wakefield.

OCTOBER 11.

Kilkenny.—Houses.—22 working-class houses in Fair Green, for Corporation. R. F. Bowen, Borough Surveyor. Dep. £5.

Various Districts.—Works and Repairs.—To public buildings, for Contracts Branch, H.M.O.W., King Charles-st., London, S.W.1. Dep. 10s. 6d. (payable to the Commissioners, H.M. Office of Works).

OCTOBER 12.

Walsall.—Sanatorium.—20-bed block sanatorium at Goscote-lane, including drainage, fencing, gates, etc., for Corporation. J. Taylor, B.E.

Walsall.—House.—Detached house at proposed sanatorium at Goscote-lane for C.B. J. Taylor, B.E. and S. Dep. £3 3s.

***York.**—Post Office.—At Fishergate, for Contracts Branch, H.M.O.W., King Charles-st., London, S.W.1. Dep. £1 1s. (cheques payable to the Commissioners, H.M. Office of Works).

OCTOBER 14.

Various Districts.—Works and Repairs.—To public buildings, for Contracts Branch, H.M.O.W., King Charles-st., London, S.W.1. Dep. 10s. 6d. (payable to the Commissioners, H.M. Office of Works).

OCTOBER 15.

Hampstead.—Conversion.—Of Abbeydale-mans., Haverstock-hill, N.W.3, into 10 flats, A. G. D. Hall, of Child & Halls, architects, 1, Montpelier Vale, Blackheath, S.E.3. Dep. £2 2s.

OCTOBER 17.

Prestwich, near Manchester.—(County Mental Hospital), alterations and additions. Clerk, County Offices, Preston. Dep. £5 5s.

OCTOBER 23.

Turkey.—Pavilion.—Construction works in the large new pavilion of Ankara Model Hospital. Apply, Ministry of Health.

OCTOBER 25.

Cheriton.—Houses.—23 non-parlour type on Oaks Farm estate, for U.D.C. A. S. Lilley, E. and S.

OCTOBER 29.

Glasnevin.—Heating.—New heating chamber and fuel store at Colaiste Caoimhin, Glasnevin, Dublin, for Commissioners of Public Works. T. Cassedy, Public Works, Dublin. Dep. £1.

NO DATE.

Batley.—Dairy.—Model dairy at Batley, for Batley Co-operative Society, Ltd. C. F. Moxon, architect, 3, Regent-st. South, Barnsley.

Eastry.—Repairs.—To two cottages at Eythorne, for R.D.C. F. A. Cloke, clerk, 51, Strand-st., Sandwich. Dep. £1 1s.

Inverness.—Repairs.—Of stone work of Town Hall, for T.C. B.S.

Salisbury.—Demolition.—Vale House, St. Ann-st., and erection of a boundary wall, for Salisbury, South Wilts and Blackmore Museum Committee, Jonas & Parker, solicitors, 45, Castle-st., Salisbury.

Spilsby.—Alterations.—Alterations and additions to Institution. H. G. Gamble, County Architect, Bank-st.-chambs., Lincoln. Dep. £1 1s.

Stamford.—Painting, etc.—Repair of corrugated galvanised iron sheeting to, painting of, hangar, 150 by 105 by 30 ft. at Bourne, Lincolnshire. Kelham & Son, solicitors, Stamford.

Wakefield.—Hospital.—Maternity hospital, antenatal clinic, child welfare centre and staff quarters at Manygates-pk., for T.C. L. Ives, City S. Dep. £5.

MATERIALS, etc.

SEPTEMBER 28.

Portsmouth.—Bricks, etc.—For T.C. F. J. Sparks, Town Clerk.

Wilts.—Stone.—Road stone, chippings and gravel for C.C. H. S. Ganderton, C.S., Trowbridge.

SEPTEMBER 30.

Wednesbury.—Cement, etc.—For T.C. A. Booth, B.E. and S.

OCTOBER 1.

Isle of Man.—Builder's Materials.—For Highway Board. R. C. W. Brown, Surveyor-General of Highways, 21a, Athol-st., Douglas.

OCTOBER 6.

Leeds.—Setts.—1,500 tons of granite setts, for T.C. E. W. Cockerlyne, Highways E., 155, Kirkstall-rd.

OCTOBER 24.

South Africa.—Paints, etc.—For South African Railways and Harbours Administration. Dept. of Overseas Trade, Westminster, S.W.1. (Ref. B.X. 7407.)

ENGINEERING, IRON AND STEEL.

SEPTEMBER 28.

London.—Sewerage.—24-in. concrete pipe sewer and filling in of existing 3 ft. by 2 ft. brick sewer under L. and N.E.R between Amhurst-pk. and Dunsmure-rd., for Hackney B.C. Percival Holt, B.E. and S. Dep. £3 3s.

Merton and Morden.—Sewerage.—At site of refuse disposal works, Garth-rd.—providing and erecting approximately 820 yds. cleft oak fencing with concrete posts; constructing roadway into works in reinforced concrete; erecting lavatory, messroom and office, together with drainage and other works; supplying and erecting one weighbridge; Private street works—John's-lane, Morden, construction of 77 yds. 6 in. soil sewer and 117 yds. 6 in. surface water sewer, together with manholes, etc.; painting and decorating interior of 100 houses on the Whatley housing estate, Merton, for U.D.C. G. Jerram, E. and S. Dep. £1.

SEPTEMBER 29.

Arran.—Bridge.—4-span bridge, about 80 ft. long overall, across the Dougarie Burn in concrete, masonry and steel, for Bute C.C. A. C. Crockett, Road Surveyor, Lamlash, Arran Dep. £2 2s.

SEPTEMBER 30.

Lleyn.—Sewerage.—Supplying and laying of approximately 146 lin. yds. of 6-in. dia. stoneware pipes, 3,719 yds of 9-in. stoneware pipes, 515 lin. yds. of 12-in. stoneware pipes, 506 lin. yds. of 9-in. cast-iron pipes, and 267 lin. yds. of 9-in. cast-iron pipes, as sea outfall, with construction of manholes and other works, for sewerage of Morfa Nevin, for R.D.C. S. L. Richards, chartered civil engineer, 5, Dumfries-pl., Cardiff. Dep. £2 2s.

Wath-upon-Dearne.—Bridge.—Fixing new steel swingbridge over canal in Moor-rd., Wath-upon-Dearne, to replace existing wooden bridge, for U.D.C. H. Cranage, E. and S.

OCTOBER 1.

Alexandria, Egypt.—Transformers.—Supply and installation of electric cables, switchgear, transformers and electrically driven centrifugal pumps in Port of Alexandria, for Egyptian Government. Chief Inspecting Engineer, Egyptian Government, 41, Tothill-st., London, S.W.1 Payt. 10s.

Shrewsbury.—Sewerage.—Waterworks construction for parish of Bicton, for T.C. Fred. J. & Edw. Wilson Dixon, engineers, and W. Arnold Hewitt, Borough Water Engineer. Dep. £10.

OCTOBER 3.

Hayes and Harlington.—Sewers.—330 yds. of 21-in. S. and S. concrete tube sewers, 840 yds. of 12-in. glazed stoneware sewers, 3,400 yds. of 9-in. glazed stoneware sewers, 2,200 yds. of 6-in. glazed stoneware sewers, 2,500 yds. of 4-in. glazed stoneware sewers and drains, together with manholes, inspection chambers and contingent works, for U.D.C. E. A. Sandford Fawcett, consulting engineer, 53, Victoria-st., Westminster, S.W.1.

Howstean.—Reconstruction.—Of Howstean footbridge which carries footpath connecting Stean village and Middlesmoor over Howstean Beck, Pateley Bridge, for West Riding C.C. West Riding Surveyor, County Hall, Wakefield. Dep. £1.

OCTOBER 6.

Hawksworth.—Repairs.—To Car Dyke bridge, for Notts C.C. J. C. Haller, C.S., Shire Hall, Nottingham.

Twickenham.—Drainage.—Sewers and other works in Hospital Bridge-rd. and Percy-rd. for T.C. Gilbert R. King, B.E. and S. Dep. £3 3s.

OCTOBER 10.

Hendon.—Extensions.—And alterations to south of Brent outfall works, for U.D.C. A. O. Knight, E. Dep. £5 5s.

OCTOBER 11.

Barnes.—Sewer.—12-in. soil relief sewer, a 9-in. surface water sewer, and provision and erection of ejector, compressor, pumping machinery and pumping chamber, Lonsdale-rd., Barnes, for U.D.C. F. P. Kindell, E. and S. Dep. £2 2s.

OCTOBER 15.

Egypt.—Extensions.—Supply of pumps, piping, electric motors, filtration plant, etc., for Egyptian Ministry of Interior. Dept. of Overseas Trade, Westminster, S.W.1. Ref. G.X. 11836.

Ingleton.—Bridge.—New bridge to carry Keighley and Kendal County road over River Greta at Ingleton, for West Riding C.C. West Riding Surveyor, County Hall, Wakefield. Dep. £1

OCTOBER 18.

Middlesex.—Sewerage.—For West Middlesex main sewerage schemes in Northolt, Greenford, and North Ealing branch, for C.C. Dodd & Watson, engineers, 3, Central-bldgs., Westminster, S.W.1. Dep. £5 5s.

OCTOBER 24.

South Africa.—Bridgework.—Structural bridgework for New Buffalo River Bridge, East London, for South African Railways and Harbours Administration. Secretary to Tender Board, South African Railways Headquarter Offices, Johannesburg. (Ref. G. 11819.)

OCTOBER 31.

Uruguay.—Refinery.—Petroleum refinery, for Administration Nacional de Combustibles, Alcohol y Portland, at Montevideo. Dept. of Overseas Trade, Westminster, S.W.1. (Ref. A.X. 11394.)

DECEMBER 5.

India.—Reconstruction.—Of Nerbudda bridge at Broach, Bombay Presidency, India, for Bombay, Baroda and Central India Railway Co. S. G. S. Young, secretary, White Mansion, 91, Petty France, Westminster, S.W.1.

ROAD, SEWERAGE AND WATER WORKS.

SEPTEMBER 28.

Dumfries.—Water Supply.—Additional piping, including about 130 lin. yds. of 3 in. dia. and about 230 lin. yds. of 2 in. dia. cast-iron pipes, and about 400 lin. yds. of 1 in. dia. lead piping, together with concrete tank and other relative work, at Bankshill, for C.C. Warren & Stuart, 94, Hope-st., Glasgow. Dep. £1 1s.

Glasgow.—Sewers.—Roads and sewers at Broomloan-rd., for Corporation. Director of Housing, 20, Trongate.

Hemworth.—Sewer.—691 yds. lin. of 15-in. stoneware sewer and 487 yds. lin. of 12-in. stoneware sewer with manhole and appurtenant works in South Elmsall and South Kirby, for R.D.C. W. T. Lynam, E.

Herne Bay.—Making-up.—Of Gordon-road (section 2), approximate length 465 ft., for U.D.C. B. J. Wormleighton, E. and S.

Kingston-upon-Hull.—Asphalting.—Swimming-pools and concrete roofs at West Hull Baths, Albert-av., for T.C. H. Hamer, City E. Dep. £3 3s.

London.—Paving.—Heybridge-av., Streatham, for Wandsworth B.C. E. J. Elford, B.E., 215, Balham High-rd., S.W.17.

Sunderland.—Sewering, etc.—Sewering, levelling, paving, metalling, flagging, channelling, etc., of Browne-rd. (north side, from East Back Annie-st. to Helen-st.), for Corporation. B.E. Dep. £2 2s.

Walsall.—Making-up.—Also sewering of Whitmore-st. extension (approximately 100 yards long) from New Mills-st. to the New-rd. to Bescot Station, for T.C. J. Taylor, B.E. and S.

SEPTEMBER 29.

Lambeth.—Making-up.—And paving of roadways and footways, together with the incidental works of Roxburgh-rd. and Bewlys-rd., for B.C. Osmond Cattlin, M.Inst.C.E., F.S.I., B.E., Town Hall, Brixton-hill, S.W.2. Dep. £1 1s.

OCTOBER 1.

Bingley.—Repairs.—To asphalt playground at Mornington-rd. school, for West Riding E.C. E. B. Nelson, Education Office, Bingley.

Formby.—Sewer.—Road and sewer works in Phillips-lane, for U.D.C. E. Kendrick Gollan, E. and S.

Rochester.—Improvements.—In Ethelbert-rd., for T.C. City S. Dep. £1 1s.

Romford.—Footways.—Extending carriageways, footways and underdrainage in Cemetery, Crowlane, for U.D.C. F. G. Beaumont, E. and S., 110, Market-pl.

Whitehaven.—Sewers.—400 yds. of 9 in. stoneware pipe sewers, with all necessary manholes, etc., in connection with Moresby Parks sewerage, for R.D.C. E., 81, Lowther-st. Dep. £2 2s.

OCTOBER 3.

Birmingham.—Sewerage.—Sewerage of Glebe Farm housing estate (part 1), about 2,030 yds. of superimposed sewers; making-up and completion of Landgate-rd., Handsworth, length 210 yds.; and supplying, laying and maintaining 16,000 super. yds. of 1-in. asphalt paving on footways on the Weoley Castle housing estate, for T.C. H. H. Humphres, City E. and S. Dep. £2 each.

Hayes and Harlington.—Sewers.—330 yds. of 21-in. s. and s. concrete tube sewers; 840 yds. of 12-in. glazed stoneware sewers; 3,400 yds. of 9-in. glazed stoneware sewers; 2,200 yds. of 6-in. glazed stoneware sewers; 2,500 yds. of 4-in. glazed stoneware sewers and drains, together with manholes, inspection chambers and contingent works, for U.D.C. E. A. Sandford Fawcett, consulting engineer, 53, Victoria-st., Westminster, S.W.1. Dep. £6 5s.

Morecambe and Heysham.—Improvements.—Making-up of 20 different streets, for T.C. R. B. Savage, B.E. and S. Dep. 10s. 6d. each street.

OCTOBER 4.

Teddington.—Sewer.—Relaying existing surface water sewer in High-st. in 18 in. reinforced concrete pipes, with sundry appurtenant works, for U.D.C. E. Bostock, S. Dep. £2.

OCTOBER 5.

Acton.—Road.—Reconstruction of Park Royal-rd. and Acton-lane (part of), N.W.10, with reinforced concrete and asphalt, for T.C. W. G. Cross, B.E. Dep. £2 2s.

Glacton.—Making-up.—Park-way, Uplands-rd., Kings-rd. (Wash-lane to Park-way), Arnold-rd. (made-up portion to Uplands-rd.), Coan-av. (sewering only), for U.D.C. Wm. Aiston, S.

Glacton.—Extension.—Drainage and paths in portion of cemetery, comprising laying of approximately 500 lin. yds. of 9-in. and 6-in. pipes and 1,500 super. yds. of tarsprayed gravel paths, with manholes, etc., for U.D.C. W. Aiston, S.

Hendon.—Sewer.—Main soil sewers in parishes of Harrow Weald, Great Stanmore and Little Stanmore, and manholes, etc., for R.D.C. H. W. Rackham, S. Dep. £3 3s.

Hove.—Making-up.—In Park-av.; also Jesmond-rd., for T.C. T. R. Humble, B.S.

Peterborough.—Sewer.—Laying of a 9 in. dia. stoneware pipe sewer and other incidental works in New-rd. near junction with Crawthorne-rd., for T.C. City E. Dep. £2 2s.

Reading.—Improvements.—In Uplands-rd., comprising 1,750 sq. yds. of 7-in. concrete carriageway, tarred macadam footways and a surface water sewer, etc.; and in Wellington-av., comprising 1,000 sq. yds. of tarred macadam carriageway, with tarpaved footways, etc., for C.B. B.S. Dep. £2 2s.

Skirlaugh.—Sewer.—Laying of sewer in parish of Great Hatfield, for R.D.C. J. A. Andrews, E. Dep. £1.

Southend-on-Sea.—Pipes.—28 yds. lin. of 24-in. dia. cast-iron pipes and 74 yds. lin. of 12-in. dia. and 86 yds of 9-in. dia. glazed stoneware pipes in new road, Leigh-on-Sea, for C.B. R. H. Dyer, B.E. and S. Dep. £2.

Wanstead.—Reconstruction.—Laying about 5,307 super. yds. of asphalt paving on concrete in Hollybush-hill, together with relaying of kerbs and footpath work, for U.D.C. F. R. Gibbins, S.

OCTOBER 6.

Reading.—Improvements.—Of Uplands-rd., comprising 1,750 sq. yds. of 7-in. concrete carriageway, tarred macadam footways and a surface water sewer, etc., and in Wellington-av., comprising 1,000 sq. yds. of tarred macadam carriageway, with tar-paved footways, etc., for C.B. B.S. Dep. £2 2s.

Southend-on-Sea.—Making-up.—Cumberland-av., section 2, and Gordon-rd., and incidental works, for C.B. R. H. Dyer, B.E. and S. Dep. £1 each.

OCTOBER 7.

Oban.—Roadworks.—Roadwork, in connection with electricity undertaking, for T.C. Kennedy & Donkin, 8, Broadway, Westminster, S.W.1. Dep. £2 2s.

Slough.—Sewers.—1,600 yds. approximately of 12-in dia. stoneware sewer and 480 yds. approximately of 9-in. dia. stoneware sewer, together with manholes and appurtenant works, east and west of Horsemoor Green Junction, London Road, for U.D.C. A. Bromly, E.

OCTOBER 8.

Bexhill.—Making-up.—Of Holmesdale-rd., for T.C. B.S. Dep. £1 1s.

Wallingford.—Mains.—385 yds. of 3 in. cast-iron pipe water main extending from Pumping Station in Station-rd. to borough boundary in Wantage-rd., and work incidental thereto, for T.C. Fiddian & Deeley, engineers, 13, Church-st., Stourbridge. Dep. £1 1s.

NO DATE.

Bankfoot.—Pipes.—Providing and laying water pipes, and all other necessary works, for water supply for village, for Perth C.C. H. J. Bell & Co., chartered surveyors, 18, Charlotte-st., Perth. Dep.

Public Appointments

SEPTEMBER 30.

***Chepstow, Mon.**—Clerk of Works.—At Port Skewett. Clerk, Council Offices, Chepstow.

The late Mr. Robert Shorrock.

Mr. Robert Shorrock, of Moorhurst, Ashleigh, who died on September 5, at Darwen, founded in 1877 the firm of Shorrock and Sons, Ltd., contractors and timber merchants, of Union-street Saw Mills, Darwen. That firm, well known all over Lancashire, has carried out many important building contracts, including the enlargement of the works of Messrs. Howard and Bullough. This contract amounted to about a quarter of a million pounds. A prominent figure in Darwen's life, Mr. Shorrock served on the Town Council for a number of years, and in 1902-3 was Mayor of the borough. It was due to him that the Victoria Tower, erected on the moors in commemoration of the Diamond Jubilee of Queen Victoria, came into being. He was a prominent Mason.

The late Mr. P. J. Machin.

It is with profound regret that we have to announce the death of Mr. Percy James Machin (governing director and a founder of Messrs. Machin and Kingsley, Ltd.), which occurred, after a long illness, on September 12.

TRADE NEWS

Standfitting at Olympia.

We learn that on the stand of the Patent Tubular Shop-Fitting Co., of Cheltenham (Row H, No. 161), all plate and ornamental glass, leaded lights, copper lights and glazing was supplied by Messrs. Eaton, Parr and Gibson (Glass Merchants), Ltd., of 53, Kingsland-road, E.2.

Beckenham Municipal Offices.

In connection with this building, illustrated in our issue for September 16, we are asked to state that the electric light fittings were supplied by Messrs. Courtney Russell and Co., Ltd.

An Amalgamation.

The Allied Arts and Crafts Guild, Ltd., which hitherto has incorporated the Ashted Guild and King's Heath Guild of Hand Crafts, has now taken over also the Stratford-on-Avon Guild. In future the work of the Stratford-on-Avon Guild will be carried on by the first-named company at their works at Guild House, Tyburn-road, Erdington. The range now covered consists of the following:—"Guildstone" (for reconstructed stone dressings, hoods, heads, sills, steps, etc.); fibrous plasterwork; ornamental leadwork; cast lead for signs, etc.; woodwork and carving; stained glass, and painting decorations.

New Design for a Paint Tin.

It will be seen from the small illustration that the design of Hall's Distemper tins has been much improved. It is interesting to know that, whilst the design has been modernised and the tin made particularly attractive, it has not lost its identity. The main features — the two Painters and the Plank, the wording "Hall's Distemper the Oil-Bound Water Paint," and the orange and blue colouring—have been retained. Messrs. Sissons Brothers and Co., Ltd., Hull, the manufacturers of Hall's Distemper, keep pace with the times, and, in so far as the material is concerned, their laboratory staff, by continued research, have more than maintained the high quality of this old-established water paint.

British Exhibition, Copenhagen.

Visitors to this exhibition, which is being held from September 24 to October 9, at Copenhagen, will have an opportunity of viewing a wide range of productions of Messrs. Ruston & Hornsby, Ltd., the oil engine specialists. On the stand of Mr. E. T. Grew, of Copenhagen, is to be seen the new British crude-oil locomotive of 16 b.h.p. Introduced towards the end of 1931 and already firmly established, these locomotives are made in three sizes, namely, 10, 16 and 20 b.h.p. Three speeds in both directions are provided for. The engine is started by hand and runs efficiently on a range of fuels, including paraffin, gas oil, solar oil, and Diesel fuel oil. The increasing application of oil engines to traction and allied work is illustrated by the exhibit of a crude-oil roller of the three-wheel type with compensating gear, scarifier, awning—weighing approximately 8¼ tons—and fitted with the firm's latest airless injection oil engine. On the stand of Brodr. Bendix, of Copenhagen, is one of the firm's popular horizontal oil engines, a unit which runs on the well-known Ruston principle of airless injection, using either crude or residual fuel oils, with a guaranteed low consumption, starts from cold without any form of preheating, and is extremely simple in operation. As a means of providing cheap power and light, engines of this type are of outstanding interest to estate agents, country house owners, cinema proprietors, and garage owners, the latter particularly by reason of the consumption of waste lubricating oil.

CURRENT AND PROPOSED BUILDING WORK*

In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed' works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S; Clerk, C.; Town Clerk, T.C.; County Engineer C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Alfreton.—U.D.C. propose 28 houses in Riddings. —Council considering public baths in Somercotes Market-place.

Amble.—Schemes for bathing-pool and promenade with shelters being considered by U.D.C. W. Barton, S.

Ashington (Northumberland).—Sanction to 66 houses being sought by U.D.C. J. Harrison, Housing Architect.

Aylesbury.—T.C. approved: rebuilding of premises, 31-33, High-st., D. Greig, Ltd.

Bacup.—E.C. propose to erect a new electricity sub-station at Waterbarn.

Barnes.—Plans passed: 2 shops with residences over, 2 lock-up shops, and 4 flats, Upper Richmond-rd., and Penrhyn-cres., T. P. Bennett & Son; alterations and additions, 172,174, Upper Richmond-rd., C. A. Lloyd, for Whytlaw & Harper, Ltd.; rebuilding of stores, etc Stanton-rd., R. B. Rowell, for Curd Bros.

Barrow.—Plans passed: 4 pairs houses, Clarence-rd., L. Robinson; 18 pairs of semi-detached houses, Ancaster-st., J. H. Lines & Co.

Birkenhead.—T.C. propose additional block of 12 flats, Church-st. R. W. Johnston, B.S.

Blackpool.—Gorst & Crabtree, L.R.I.B.A., 7, Birley-st., preparing plans for garage, shops and flats, Clifton-drive and Squires-gate, for Brammer's. Tenders invited.

Boston.—T.C. approved plans for alterations to church hall for Parochial Council of St. Botolph's Church.—Myton Lubricants, Ltd., acquired site on River Bank opposite the dock for wharf and petrol store.

Bradford.—Rev. L. Flynn, P.P. of Church of Little Flower, High-st., Queensbury, acquired site for schools.

Canterbury.—Additions to St. Mildred's tannery, for Williamson & Sons, Stour-st.

Carlisle.—T.C. approved: rebuilding premises, Church-st., Caldewgate, Scottish Motor Traction Co., Ltd., Messrs. J. & R. Bell, Ltd.

Consett.—Housing Committee of U.D.C. is to select site for 200 additional houses. J. Elthingham, architect.

Crewe.—T.C. approved: alteration at Queen's Hall Cinema, High-st., H. A. Wilcox; premises, Market-sq. and Market-st., for Marks & Spencer, Ltd.

Denton.—Council anticipated within short time plans for 82 or more houses in Victoria-st., near to Denton Park, will be passed.—New housing estate also being created in Frederick-st., off Ashton-rd.

Fillingley.—Parochial Council propose parish hall.

Folkestone.—T.C. approved: 6 houses, semi-detached, Downs-rd., W. E. Saunders; 6 houses, semi-detached, Downs-rd., Beach & Co., Ltd.; 20 houses, semi-detached, Hill-rd., Corporation.

Gateshead.—T.C. approved: 8 semi-detached bungalows at Orchard-gardens, Low Fell, J. Heel, jun.; sub-station at Penman-st., County of Durham Electrical Power Distribution Co., Ltd.

Great Yarmouth.—T.C. approved: 3 pairs semi-detached houses, Hawkins-av., H. R. Middleton & Co., Ltd.; 11 houses, Century-rd., Cobholm, G. Holmes.

Hemsworth.—R.D.C. approved: 20 houses at Shafton-Two-Gates, for Hammerton, Schorah & Co.

Hexham-on-Tyne.—Northumberland E.C. to remodel Old Council Schools. W. W. Tasker, 17, Claremont-place, Newcastle-on-Tyne, architect to E.C.

Hull.—Marist Community of Roman Catholics proposing Marist College, Cottingham-rd. Rev. Dr. McCauley, Headmaster. Plans prepared by Williams & Jopling, A.R.I.B.A., architects, Ferrechams., Whitefriargate.

Hyde.—T.C. propose 38 houses, Back Bower site. J. H. Ward, B.S.

Leadgate.—U.D.C. decided to make efforts to secure improvements to Carrhouse bridge between Leadgate and Consett. J. W. Merrett, C.S., Shire Hall, Durham.

Leeds.—Very Rev. Canon Mitchell, of St. Anne's Cathedral, acquired site in Chapeltown district for church.

Loftus.—U.D.C. propose public conveniences on site between High-st. and High Side. P. H. Andsley, E.

Liverpool.—Plans passed by T.C.: Addition to works, Rice-lane, Dunlop Rubber Co., Ltd.; alteration, Exchange-st. East (36), Rees & Holt, for Alliance Assurance Co., Ltd.; baptistry, Bishop Chevasse Memorial Church, Sedgmoor-rd., Quiggin & Gee, for Liverpool Diocesan Board of Sites and Buildings: 12 houses, Mentmore-rd., Richard Owens & Son, for J. Hughes; 3 houses and 4 shops, Townshend-lane, corner of Maiden-lane., G. Stanley Lewis, for A. G. Sharples; showrooms, Picton-rd. and Banks-rd., for Liverpool Gas Co.; 8 houses, Bowden-rd., 7 houses, Duncombe-rd., and 8 houses, Belper-st., Wm. Pecorini, for Barkhill Estates, Ltd.; 12 houses, Speke-rd., Woolton, Sydney A. Kelly, for J. Hughes; extension to works, Banastre-st., R. Owens & Son, for Rowe Bros. & Co., Ltd.; 10 houses and shops, Muirhead-av. East, S. Powell & Son, Ltd., for H. Powell; 6 houses, Wheatcroft-rd., T. Wainwright & Sons, for J. Davies & Sons; extension to grand stand, Stanley Greyhound Track, Prescot-rd., for Electric Hare Greyhound Racing, Ltd.; amended plan of cinema, London-rd., corner of Anson-pl., Grey & Evans, for Alhambra (Liverpool), Ltd.; 14 houses, Sefton-close, and 6 houses, Leyfield-rd., R. G. Tyrer, for Scarrett Bros.; mortuary, Olive-mount Cottage Homes, for Corporation; 22 houses, Ardrossan-rd., 24 houses Moffatdale-rd.; and 24 houses, Ayreshire-rd., W. T. Clarke, for T. Percy, Ltd.; 44 houses, Boden-rd., W. T. Clarke, for T. Percy, Ltd.

London (Fulham).—B.C. received sanction to borrow £500 for erection of Beaconsfield-rd. sub-station.—Council recommend piece of land forming part of Bishop's Park required for staircase from Putney bridge to subway, be surrendered to L.C.C.—Council sanctioned application by Borough Electrical Engineer for sub-station at 334, North End-rd., abutting on Epirus-rd.

Market Bosworth.—On recommendation of Housing Committee, R.D.C. to apply for Ministry's sanction to build 20 houses at Newbold Verdon, 10 at Barlestone, 60 at Ibstock, 6 at Stapleton, 20 at Ratby, 25 at Desford, and 20 at Bagworth.

Manchester.—Housing Committee to build another 2,000 houses on Wythenshawe estate, subject to consent of City Council.

Marton (Yorks).—A. Dowson propose 21 houses, Gipsy-lane.

New Brighton.—New Brighton Football Club (Rugby Union) propose grandstand and pavilion at junction of Leasowe-rd. and Reads-lane. Architect, G. E. Marshall, 1, Victoria-st., Liverpool. Cost £3,250.

Newcastle-on-Tyne.—It is proposed to erect additional story to premises of Rington and Co., Algernon-rd. Plans by S. J. Stephenson, 5, Saville-place.—Plans approved for 12 houses Ronald-drive. Architect, R. Burke, 12, Grey-st.—Tenders expected to be invited shortly for warehouse, High Bridge, for Ward and Sons, High Bridge. Newcombe and Newcombe, 23, Eldon-sq., architects.—W. E. Hall and Sons, Low Fell, Gatshead-on-Tyne, propose 68 houses, Thorntree estate. Marshall and Tweedy, architects, Mervyn House.

Oldham.—Surveyors and Building Committee approved plans for 60 additional houses on Abbeyhills housing estate.

Pontefract.—Plans being prepared for dairy for Industrial C.W.S. Architects, Pennington, Hustler and Taylor, Rupergate.

Portsmouth.—T.C. approved: 6 houses, Magdalen-rd., V. Dye; 7 houses, Algiers-rd., V. Dye; additions to Dairy Depot, Milton-rd., Portsea Island Mutual Co-operative Society, Ltd.; club premises, Neville-rd., executors of the late Mr. W. Ford; additions to Parish Hall, All Saints, Commercial-rd., Rev. A. L. Hill (vicar); 8 houses and garages, off Havant-rd., Cosham, Westbrook & Co.

Ramsbottom.—U.D.C. propose public conveniences on Peel Brow Playing Fields.—U.D.C. propose bridge in lieu of existing Simon's Bridge.

Rishton.—J. Grimshaw, corn merchant, acquired Unity Mill, Spring-st., for extensions.

Rushden.—U.D.C. received M.H. sanction for raising £2,800 for housing.

See also List of Contracts, Competitions, etc.

Runcorn.—F. Anstead Browne, F.R.I.B.A., County Architect, County Offices, Chester, prepared plans for elementary school at £5,700.

Salford.—C.C. approved plans for church and presbytery at junction of Liverpool-st. and Weaste-lane, for Catholic Authorities.

Scarborough.—Ridehalgh Bros., Ltd., Colne, acquired additional land on Newlands estate off Burnistan-rd., for 22 semi-detached houses. Laughton's, of Pavilion Hotel, propose hotel on Wheatcroft Cliff. Architect, F. H. Jones, 102, Westborough. Quantities being prepared.—F. A. Tugwell, A.R.I.B.A., 102, Westborough, architect for alterations to premise: for dancing academy, 100, Westborough, for Hopper & Mason, Ltd. Contracts not yet placed.—E. C. Tasker, Harcourt-chambers, Harcourt-place, prepared plans for additions to premises in Marlborough-st. for S. Street & Son.

Shardlow.—R.D.C. received tenders for 66 non-parlour type houses at Sandiacre.

Southampton.—T.C. approved: 6 houses, Commercial-st., L. O. J. Southwell; shops and arcade, Canal-walk and Cross-st., Southampton Arcade, Ltd.; alterations and additions, 23, Cumberland-pl., Liverpool Friendly Society; 9 houses, Sirdar-rd., R. H. Hinton; store and spirit depot, Wharf-rd., Trinidad Leaseholds, Ltd.; rebuilding 180, 182 and 184, Above Bar-st., J. E. Maffey; additions, club premises, Hulse-rd., Southampton Working Men's Labour Club and Institute, Ltd.; alterations and additions, Mission Hall, Ryde-terr., Rector and Churchwardens of St. Mary's Church; alterations and additions, 75, 77 and 79, Shirley-rd., Co-operative Wholesale Society, Ltd.

Standish.—D.C. instructed S., to make lay-out plans for housing at Lower Ground; Council considering land at Cat-i'-th'-Window Farm for housing.

Stockport.—Peter Peirce & Son, 39, St. Petersgate, are architects for extensions to tobacco factory of E. Robinson & Sons, Ltd. Contracts not let.—E.C. propose senior elementary school at Lisburne-lane, Great Moor. Plans in Architect's Department, Education Offices.—Company to be known as Stockport Greyhound Racers, Ltd., been formed to carry out proposed greyhound racing track, rear of Victoria Hotel, off Hall-st. and Turncroft-lane. Plans by J. C. Derham, architect, Empress Buildings, Church-st., Blackpool.

Stockton-on-Tees.—Site been secured at Hartburn by E.C. for junior school and at Newnham for elementary school. J. P. Wakeford, B.E.

Sunderland.—Plans by Hill and Honeyman, 6, Eldon-sq., Newcastle-on-Tyne, in course of preparation, for rebuilding of Manor Hotel.—Plans approved for a warehouse and office accommodation in St. Thomas-st. W. and T. R. Milburn, 17, Yawcett-st., architects.

Swansea.—Borough Architect estimated cost of conversion of Parochial School premises, Oxford-st., into rooms for instruction in handicraft and domestic subjects, together with re-instatement of dilapidations of building and new equipment, at £1,200.—Council resolved that application be made to M.H. for approval to further 118 houses on Mayhill site.—Plans passed: 7 houses and shops, Townhill, S. L. Jones, E. J. Collins, J. Davies, Davies, Bros., E. J. Allen, W. C. Mason and C. S. Kenwood; 6 houses, Lon Coed Bran, S. D. Thomas; rebuilding Nos. 274 and 275, Oxford-st., for Edwards, Ltd.; sub-electric station, Tir John North, Electricity Committee; alteration and additions, St. Mary's Convent, Convent-st., Rev. Mother; additions, Zion Cottage, Swansea-rd., Waunarlwydd, A. Lewis.

Taunton.—T.C. approved: alterations to factory, Princes-st., Harding, Tilton & Hartley, Ltd.; extensions to factory, Viney-st., Harding, Tilton and Hartley, Ltd.; 50 houses, Lyngford, T.C.

Thingoe.—R.D.C. to invite tenders for houses from plans by Mr. Coates, of Hunt & Coates.

Wakefield.—Corporation considering extensions to Central Library, Drury-lane. Scheme for open-air school also being considered.

Walsall.—T.C. accepted tenders of £8,502 for 23 four-bedroom type houses and 11 one-bedroom houses, corner of Ingram-rd. and Green Rock-lane, Blakenall, and of £3,341 for 19 one-bedroom houses in Whitmore-st. extension and New Mills-st., Palfrey.

Walsall.—Jeffries & Shipley, architects, King's Court, Bridge-st., prepared plans for reconstruction of club premises in Vicarage-place.

West Kesteven.—R.D.C. received M.H. sanction to 25 more houses.

Weymouth.—R.D.C. approved children's home at Stormount, Wyke Regis, Dorset C.C.

Whickham.—U.D.C. instructed the S. to report on suitable sites for houses for aged persons.

Whitby.—U.D.C. prepared scheme for 302 houses on Gallows Close estate. J. R. Sewards, S.

Wigan.—T.C. approved: Sunday School off Jackson's-st., Scholes, for Trustees of Church of Christ; plans and section of proposed lay-out for 32 houses in Whelley, Wallace-lane, Moore-st. and Thompson-st., for J. & T. Pyke.

Willington.—U.D.C. making application to M.H. for 30 houses.

Wishaw.—Corporation intend to erect 20 houses at Cambusnethan-st. V. Wilson, Corporation Housing Architect.

Wortley.—Plans prepared for new fish shop at junction of Lower Wortley-rd. and Greenhill-lane. Tenders invited.

Yarmouth.—Improvements to public-house premises, King-st., for E. Lacon & Co., Ltd., brewers, 1, Market-place.

York.—T.C. approved: additions, "Sea Horse Hotel," Fawcett-st., S. Smith's Old Brewery; 28 houses, Lilac-av., H. Williamson; 5 houses, Millfield-lane, H. Williamson; 8 houses, Swinnerton-av., J. E. Dowling.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
"Phorpres"	2 11 3	Flettons, B'ln'se	3 5 3
Flettons at King's Cross	2 11 3	Best Blue Pressed Staffs	9 5 0
Do., grooved for Plaster	2 13 3	Do. Bullnose	9 15 0
		Blue Wire Cuts	7 5 0

White Midhurst Facing Bricks (delivered London site) 5 0 0
"Phorpres" Whites (do.) 3 17 6
"Phorpres" Rustic Facing Bricks, delivered Central London ..... per 1,000 3 12 3

Best Stourbridge Fire Brick :—

2½ in.	8 11 0	3 in.	10 5 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
		One Side and two Ends	30 10 0
Headers	20 10 0	Two Sides and one End	31 10 0
Quoins, Bull-nose and 4½ in. Flats	27 10 0	Splays, and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

	s. d.	
Thames Ballast	8 0	per yd.
Pit Sand	11 0	" "
Thames Sand	11 0	" "
Best Washed Sand	11 6	" "
½ in. Shingle for Ferro-Concrete	8 6	" "
¾ in.	11 0	" "
¾ in. Broken Brick	10 6	" "
Pan Breeze	8 0	" "

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test			
In Jute Sacks (11 to ton)	£2 4 9	to	£2 6 0
In Free Paper Bags (20 to ton)	2 6 0	to	2 8 0
Alongside Vauxhall in 80 Ton Lots			
Jute Sacks (11 to ton)	1 17 9		
Free Paper Bags (20 to ton)	1 19 0		
Ferrocrete per ton extra on above	0 7 6		
Vitocrete per ton extra on above	0 7 6		
Lightning Brand Aluminous Cement in Jute Sacks (20 to ton)	5 2 9	to	5 8 3

NOTE.—Jute Sacks are charged 1s. 6d. each and credited 1s. 6d. each nett if returned in good condition within three months carriage paid.

Super Cement (Waterproof) Paper Bags free	3 16 0
Ciment Fondu (F.O.R. Works)	4 15 0
Roman Cement	6 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" White	3 12 6
" Fine	4 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 10 9
Chalk Lime	2 10 9
Best Ground Blue Lias Lime	1 17 6
Hair ..... per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 37s. 0d. per ton at rly. dp.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 2 10

BEER STONE.—RANDOM BLOCK—

Free on rail at Seaton Station per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft. cube	3 1½

Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road waggons at above stations, per ft. cube	4 5½

White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every 1000 over 20 ft. *average*, and ½d. beyond 30 ft.

CHILMARK—RANDOM BLOCK—

At Nine Elms, per ft. cube	3 11

HOPTON-WOOD STONE— s. d.

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P. ft. cb.	14 0
Sawn two sides ..... "	22 6
Sawn three or four sides ..... "	27 6

YORK STONE, BLUE—*Robin Hood Quality.*

Delivered at any Goods Station, London.

1¼ in. sawn two sides landings to sizes (under 40 ft. super) ..... Per ft. super	5 6
6 in. rubbed two sides, ditto ..... "	6 0
3 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... "	1 6½
1¼ in. to 2 in. ditto., ditto ..... "	1 3½

HARD YORK—

Delivered at any Goods Station, London. Scappled random blocks ..... Per ft. cube	s. d. 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super	5 1½
6 in. rubbed two sides, ditto ..... "	6 1½
4 in. sawn two sides slabs (random sizes) "	3 1½
3 in. ditto ditto "	2 8
2 in. self-faced random flags ..... Per yd. super	8 0

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.: Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£24 10	3 × 6	£17 0
4 × 9	20 0	3 × 11	19 10
4 × 8	20 0	2 × 11	19 10
4 × 7	18 0	3 × 9	19 10
3 × 8	18 0	2½ × 9	19 10
3 × 7	18 0	3 × 4½	17 10
2½ × 7	18 0	3 × 4	17 10

PLANED BOARDS.

1 × 11	£22 10	1 × 9	£21 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	16/-	1½	25/-
¾	17/-	1½	27/6
1	20/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	21/-
1½	26/-
1½	27/6

MATCHING (BEST).

Inches.	per sq.
¾	15/-
¾	16/6
1	20/-

ins. BATTENS.	s. d.
¾ × 2 ..... per 100 ft.	2 0

SAWN LATHS.

	s. d.
Per bundle	2 3

1 INCH AND UP THICK.

Average price for prime quality.

	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt. ...	£4 10 0 to —.—
Liquid Glue, per cwt.	4 7 0 to 5 10 0

SLATES.

First quality slates from Bangor or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	30 0 0	18 by 10	16 10 0
22 by 12	26 10 0	18 by 9	14 12 6
22 by 11	24 10 0	16 by 10	14 5 0
20 by 12	24 0 0	16 by 8	11 0 0
20 by 10	20 2 6		

TILES.

Delivered at London rate stations in full truck loads (not less than 6 tons. Per 1,000. f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£4 10 0
ditto hand-made ditto	5 3 6
Ornamental ditto	5 8 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
{ Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£11 0 0
Plain Compound Girders	12 0 0
" Stanchions	15 0 0
In Roof Work	18 0 0

MILD STEEL ROUNDS.—To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅝ in.	11 0 0	⅞ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛ in. to 6 in. %	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛ in. to 6 in. %	Standard Fittings Sizes ⅛ in. to 6 in. %	Standard Flanges Sizes ⅛ in. to 6 in. %
Gas	65	52½	57½	70
Water ...	61½	48½	52½	65
Steam ...	57½	45	47½	60
Galv. gas	52½	40	47½	60
Galv. water	47½	35	42½	55
Galv. steam	42½	30	37½	50

C.I. HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	11d.	1/5	5d.
3½ in.	11½d.	1/7	5d.
4 in.	1/-	1/9	5d.
4½ in.	1/1½	2/-	6d.
5 in.	1/5	2/2	8d.

O.G. GUTTERS.

3 in.	1/1	1/11	5d.
3½ in.	1/2	1/11	5d.
4 in.	1/2½	2/-	5d.
4½ in.	1/4	2/4	6d.
5 in.	1/6½	2/8	8d.

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock Branches. angles, stock angles.
2 in.	1/3½	1/9 2/7
2½ in.	1/4½	2/- 3/1
3 in.	1/8½	2/6 3/9
3½ in.	2/1½	3/- 4/4
4 in.	2/5	3/7 5/3

Connections—50 per cent. off above prices.

Tonnage allowance—4 ton lots, 5 per cent. 2 ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Bends, stock Branches. Pipe, angles, stock angles.		
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts.	1 11	1 6½	1 10½
2½ in. "	2 3½	1 8½	2 4
3 in. "	2 4½	1 10½	2 9½
3½ in. "	2 7	2 4	3 3
4 in. "	2 11	2 7½	3 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

	Bends, stock Branches. Pipe, angles, stock angles.		
	s. d.	s. d.	s. d.
2 in. per yd. in 9 ft. lengths	3 4	4 3	6 3
cwt. qr. lbs.			
4 in. "	1 1 20	4 7	5 3	8 10
5 in. "	1 2 22	6 9	9 0	14 3
6 in. "	2 0 6	9 4	10 11	18 1

Gaskin for jointing 41/- per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common bars	10 10 0	to	11 0 0
Staffordshire Crown Bars—Good merchant quality	10 15 0	to	11 10 0
Staffordshire Marked Bars	14 0 0	...	15 0 0
Mild Steel Bars	9 10 0	...	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 0 0	...	9 0 0
Hoop iron, basis price	11 0 0	...	12 0 0
" Galvanised	27 0 0	...	28 0 0
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g.	11 0 0	...	11 10 0
" " " 24 g.	12 0 0	...	13 0 0
" " " 26 g.	14 0 0	...	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	13 10 0	...	14 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	14 10 0	...	15 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	17 10 0	...	18 10 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	13 0 0	...	14 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	14 10 0	...	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 10 0	...	17 10 0
Sheets Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	18 0 0	...	19 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	20 0 0	...	21 0 0
Best Soft Steel Sheets, 26 g.	21 10 0	...	22 0 0
Cut Nails, 3 in. to 6 in.	15 0 0	...	16 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

	s. d.
Seamless Copper tubes (basis ..... per lb.	0 9½
Strong sheet ..... "	0 10
Thin ..... "	0 11
Copper nails ..... "	1 0
Copper wire	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
29/- 45/- 76/- 158/- 244/- 340/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
41/6 62/- 92/- 174/- 300/- 588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in. ¾ in. 1 in.
39/6 60/- 116/6 per doz.

CAPS AND SCREWS.

1¼ in. 1½ in. 2 in. 3 in. 3½ in. 4 in.
7/6 10/- 14/- 23/- 30/- 42/- per doz.

DOUBLE NUT BOILER SCREWS.

¾ in. ¾ in. 1 in. 1¼ in. 1½ in. 2 in.
7/6 11/- 17/- 29/- 36/- 63/- per doz.

BRASS SLEEVES.

1¼ in. 2 in. 3 in. 3½ in. 4 in.
10/- 12/- 20/- 24/- 31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.P.

½ in. ¾ in. 1 in. 1¼ in. 1½ in.
35/- 56/- 98/- 162/- 228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

1¼ in. 1½ in. 2 in. 3 in.
6 lbs. P. traps ... 33/- 41/- 56/- 101/- per doz.
8 lbs. S. traps .. 35/- 45/- 66/- 126/- "

TIN.—English Ingots, 1/8 per lb. SOLDER.—Plumber's, 9d., Tinmen's 10d., Blowpipe 11d. per lb.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—*(contd).*

LEAD, &c.

(Delivered in London.)	£	s.	d.
LEAD—Sheet, English, 4 lb. and up	22	0	0
Pipe in coils	22	10	0
Soil pipe	25	10	0
Compo pipe	26	0	0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes 5s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton } £12 0 0

PAINTS, &c.

		£	s.	d.
Raw Linseed Oil, in pipes :.....	per gallon	0	1	9
,, ,, ,, in barrels ...	,, ...	0	1	11
,, ,, ,, in drums ...	,, ...	0	2	2
Boiled ,, ,, in barrels ...	,, ...	0	2	3
,, ,, ,, in drums ...	,, ...	0	2	5
Turpentine in barrels	,, ...	0	5	6
,, in drums (10 galls.)	,, ...	0	5	8
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		47	0	0

Extra for 1-cwt. kegs over 5-cwt. casks is 5/0 cwt.

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganawyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots

	£	s.	d.
per ton delivered	65	0	0
Red Lead, Dry (packages extra) ... per ton	34	0	0
Best Linseed Oil Putty ..... per cwt.	0	13	6
Size. XD quality ..... fkn.	0	3	0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.
15 oz. fourths ... 2½d.	32 oz. fourths	7½d.
15 ,, thirds ... 3½d.	32 ,, thirds	9½d.
21 ,, fourths ... 3½d.	Obscured Sheet, 15 oz. ...	3½d.
21 ,, thirds ... 4½d.	,, ,, 21 oz. ...	4½d.
26 ,, fourths ... 4½d.	Fluted, 15 oz. 7d., 21 oz ...	9½d.
26 ,, thirds ... 7½d.	Em'lid, 15 oz. 4½d., 21 oz	6d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
Rolled plate ⅛ in.	4½d.
Rough rolled ¼ in.	5½d.
Rough rolled ⅜ in.	5½d.
Figured, Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot. s.	d.
Clear sheet—not exceeding 1 foot	1	0
Do. do. 2 feet	1	3
Do. over 2 feet	1	9
Polished plate—not exceeding 1 foot	1	6
Do. not exceeding 2 feet	3	0
Cathedral—not exceeding 1 foot	1	0
Do. larger sizes	1	6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet.....	1	0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide	2	6

VARNISHES, &c.

		Per gallon £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Opal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	0
Fine Copal Flatting	ditto	1	0	0
Hard Drying Oak	ditto	0	18	6
Fine Hard Drying Oak	ditto	0	19	6
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	12	6
Best ditto	ditto	1	2	6
Best Japan Gold Size		0	12	0
Best Black Japan		0	10	0
Oak and Mahogany Stain (water)		0	12	6
Brunswick Black.....		0	7	0
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebene		0	9	0
Cuirass Black Enamel		0	7	0

Proposed New Factories.

A new factory is being started by Messrs. James Walker and Sons, Ltd., of Mirfield, Yorks, at Witney (Oxfordshire), for the manufacture of blankets.

The British Goodrich Rubber Co., Ltd., 50, Pall Mall, S.W.1, are about to put in hand the erection of an addition to their Burton-on-Trent works, to accommodate about 200 operatives. The plans have been prepared by Mr. Thomas Jenkins, F.R.I.B.A., Arcade-chambers, Station-street, Burton-on-Trent.

NEW BUILDINGS IN SCOTLAND

The Editor would be glad to receive information for publication under this heading from architects, builders, or other persons concerned. Items should be received at THE BUILDER *Office not later than Wednesday morning.*

Bo'ness.—BATHING POOL.—The T.C. are proposing to develop the municipal estate at Kinneil, by construction of a "Lido."

Dundee.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the city engineer :—Ann-street—alterations for Messrs. John Rattray and Sons—Mr. Joseph Johnston, architect, 32, Bank-street; Coldside-road, —garages for Mr. James A. Milne; Victoria-street—alterations for Messrs. D. and J. Thomson—Mr. George Jamieson, architect, 20, Whitehall-street; Wellgate—alterations for Christopher Cardosi—Messrs. Allan and Friskin, architects, 26, Castle-street; Arbroath-road—villas for Mr. Alex. Thomson —Messrs. Maclaren, Soutar and Salmond, architects, 15, South Tay-street.

Greenock.—HOUSES.—Greenock Dean of Guild Court has passed plans for 74 houses to be erected by the corporation in the east end of the town. Thirty will be built in Sinclair-street, 20 on Craigieknowes farm steading, and 24 in Grosvenor-road.

PATENTS

APPLICATIONS PUBLISHED.

377,203.—W. Singleton : Water-setting cements and compositions, and the application thereof.

377,204.—L. Voigt : Machine for working plane parallel-side surfaces of plates, discs, and similar bodies of sandstone, and artificial stone.

377,269.—Universal Rubber Paviors, Ltd., L. Gaisman, and A. F. Sexton : Manufacture of concrete blocks.

377,231.—W. F. Price : Attachment of window sash-cords.

377,235.—H. L. Plummer, and D. L. Irwin : Construction of roofings and partitions.

377,293.—Benjamin Electric, Ltd. : Lighting fittings.

377,327.—B. Morton, Jun., and H. D. Morton : Construction of ceilings and walls.

377,341.—National Equipment Corporation : Method of and means for correcting paving settlements.

377,364.—D. McLean : Means of bracing wood-framed buildings.

377,416.—C. W. Glover, and E. N. Driver : Sound-proof ventilation.

377,417.—W. Ruddy : Construction of floors.

377,420.—T. Rowntree : Machine for applying size, varnish, or other like preparation to healds.

Period for opposition expires October 4, 1932.

VISIT OF DANISH MUNICIPAL ENGINEERS

An important party of Danish municipal engineers arrived in this country last Sunday for a tour of inspection of various industrial establishments in England and Scotland. The visit is taking place under the auspices of the British Steelwork Association in co-operation with the Danish British Association for Trade of Copenhagen, which has done much for the furtherance of trade relations between Denmark and Britain. Considerable interest in the visit is also being taken by the Development Council of the Department of Overseas Trade and by the Danish municipalities whose engineers are making the visit.

Mr. C. J. Kavanagh, the director of the British Steelwork Association, explains that the visit is to afford these Danish engineers an insight into British industrial methods and the wide range and high quality of British steel and engineering products. British trade with Denmark in these products is capable of considerable expansion, and everywhere in Denmark great sympathy is extended towards goods of British manufacture.

The present visit is intended, moreover, to effect close and lasting personal contacts, and there is every reason to believe that from a trade development point of view the visit will be a valuable supplement to the British Exhibition commencing in Copenhagen shortly. In the exhibition will be shown the wide range of our products, but for their full appreciation it is necessary for potential customers to see something of the great achievements in our public works and industrial establishments. The visit will include excursions to prominent public works, and in Scotland the visitors will be the guests of Messrs. Stewart and Lloyds, and will be shown over the Loch Katrine waterworks.

The gentlemen making the tour are Mr. Julius Hansen, Chief Engineer, Copenhagen Municipal Gasworks; Mr. A. T. Jorgensen, Chief Municipal Engineer, Elsinore; Mr. Vilh. Marstrand, Consulting Engineer for Municipalities, Editor of *Ingeniorer*; Mr. S. Stiirup, Chief Municipal Engineer, Frederikshavn; Mr. Poul Sorensen, General Manager, Copenhagen Waterworks, Chairman of the Association of Academical Engineers; Mr. V. A. Westergaard, Chief Municipal Engineer, Gentofte, Chairman of the Association of Danish Municipal Engineers; Mr. P. Friderichsen, Danish British Association.

A Housing Purchase Scheme.

It is stated that the corporation of Bury, Lancashire, has been approached by Messrs. Atkinson and Hayes, a firm of auctioneers and valuers in Manchester, with a proposal to purchase one of the housing estates owned by the municipality. Leading officials of the corporation have been appointed to investigate the offer. The statement is made that a syndicate has been formed with a capital of some £2,000,000 sterling and with the object of purchasing housing estates.

BUILDING TRADE WAGES IN SCOTLAND*

Following are grade rates authorised by the Scottish N.J.C. for Building Industry. The bricklayers in the Glasgow district have ½d. per hour extra. It should be noted that plasterers and painters who are not parties to the Scottish N.J.C. pay higher wages of 1d. and ½d. per hour extra respectively. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classifications ...	A	A^1	A^2	A^3	B	B^1	B^2	B^3
Craftsmen	1/6½	1/6	1/5½	1/5	1/4½	1/4	1/3½	1/3
Labourers	1/2	1/1½	1/1½	1/0½	1/0½	1/-	/11½	/11½

Aberdeen	A	Dundee	A	Hawick	A^3	Perth	A
Airdrie.....	A	Dunfermline	A	Helensburgh	A	Perthshire	A
Alexandria	A	Dunoon	A	Inverness	B	Peterhead	A^3
Arbroath.....	A^3	East Lothian	A	Kilmarnock	A	Renfrewshire	A
Ayrshire	A	Edinburgh	A	Kincardineshire ...	A^3	Rothesay	A
Bathgate.....	A	Falkirk	A	Kinross-shire	A	Roxburghshire	A^3
Bo'ness	A	Forfarshire	A^3	Kirkcaldy	A	St. Andrews	A
Broughty Ferry	A	Fort William	A	Lanarkshire	A	Selkirkshire	A
Clackmannanshire ...	A	Galashiels	A^3	Leith	A	Stirling	A
Coatbridge	A	Glasgow	A	Midlothian	A	Stirlingshire, West	A^3
Dumbartonshire	A	Greenock	A	Motherwell	A	West Lothian.....	A
Dumfries.....	A^3	Hamilton	A	Peebleshire	A^3	Wishaw	A
Dumfriesshire.....	A^3						

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 529.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	9	9
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	4
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	27	0
Add if in underpinning in short lengths	" "	6	0
Add if in floors 6 in. thick	" "	2	6
Add if in beams	" "	3	0
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	5	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	1¼

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	10
Axed in stocks	" "	0	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1
Setting ordinary register grates and stoves	each	1	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks		4	15

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	" "	9	6
Three-quarter-inch on flats in two thicknesses	" "	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	0

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Beer stone and all labour fixed	" "	15	0
Portland stone fixed	" "	20	0
Chilmark stone fixed complete	" "	17	6

SLATER.

		s.	d.
Welsh 16in. × 8 in. 3 in. lap, including nails	per square	72	9
Do. 20in. × 10 in. Do. Do.	"	80	9
Do. 24in. × 12in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	4	3
Do. joists	" "	4	9
Do. roofs, floors and partitions	" "	5	3
Do. trusses	" "	7	9

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	33/6	38/-	43/-	70/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	0	9
Centre for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal edges shot	per sq.	—	42/6	50/-	57/6
Do. tongued and grooved	"	—	47/-	56/-	64/-
Do. matchings	"	44/-	49/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size		3	9

DOORS.

		1¼"	1½"	2"
Two-panel square framed	per ft. sup.	2/1	2/3	2/5
Four-panel Do.	"	2/4	2/6	2/9
Two-panel moulded both sides	"	2/6	2/9	2/11
Four-panel Do. Do.	"	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. x 1¼ in	per ft. run	0	9
Mahogany handrail, average, 3 in. x 3 in.	" "	6	0
Add if ramped	" "	12	0
Add if wreathed	" "	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	3
Plain compound girders	"	18	0
Do. stanchions	"	20	9
In roofwork	"	26	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/4	1/7	1/9	2/-
Ogee Do. Do.	"	1/6	1/9	2/3	2/9
Rain-water pipes with ears	"	1/6	2/4	—	—
Extra for shoes and bends	each	3/4	4/11	—	—
Do. stopped ends	"	1/6	1/10	2/9	3/3
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	40	0
Do. Do. flats	"	39	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run	0	6
Soldered seam	" "	1	3
Copper nailing	" "	0	3

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste per ft. run		1/1	1/7	1/10	3/-	3/6	—
Do. service	"	1/6	2/-	2/5	3/6	—	—
Do. soil	"	—	—	—	—	—	6/-
Bends in lead pipe each		—	—	—	—	3/-	6/6
Soldered stop ends	"	1/-	1/4	1/9	2/6	3/2	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/6	3/-	3/6	4/4	5/6	7/9
Lead traps and cleaning screws	"	—	—	—	12/7	17/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	3
Do. Do. Sirapite	" "	2	6
Do. Do. Keen's	" "	3	6
Add saw lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	" "	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1
One-and-a-half granolithic pavings	per yard sup.	5	3½

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	7½
26-oz. Do.	" "	0	10
Obscured sheet	" "	1	1
¼-in. rolled plate	" "	0	9
¼-in. rough rolled or cast plate	" "	0	10
¼-in. wired cast plate	" "	1	3

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10%, on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office*.

Aberdeen.—Improvements at the Beach bathing pond, for the T.C. :—

Plaster, concrete and tile work—
*Sellar & Co., Aberdeen £898
Joiner and carpenter work—
*R. & J. Reid, Aberdeen 536
Plumber work—
*A. Christie, Aberdeen 373
Recovering of pond hall roof—
*W. Beaton & Son, Aberdeen 940

Accrington.—For (*a*) heating installations at the Grammar School; (*b*) painting at the School of Engineering, for the E.C. Mr. H. Sanderson, Borough Surveyor :—

(*a*) *J. & T. Livesey.
(*b*) *Accrington Co-operative Society, Ltd.
(Both of Accrington.)

Airdrie.—66 houses in Bere-road, for the Corporation. Mr. J. K. Fraser, Burgh Architect :—

Excavation, brick and mason—*London & Inglis, Calder-street, Coatbridge.
Plaster—*Matt. Thom & Co., Ltd., 74, Bank-street, Coatbridge.
Joinery, carpentry and ironmongery—*Munro & Janns, Main-street, Uddingston.
Plumber—*G. Ferguson & Sons, 6, East High-street, Airdrie.
Glazier—*W. Gilson & Sons, 6, Academy-street, Coatbridge.

Ashton-under-Lyne.—Extension of the switchhouse in Wellington-road, for the Electricity Department. Messrs. W. H. George & Son, architects, 7, Warrington-street :—

*E. Marshall & Sons, Ltd., Ashton-under-Lyne.

Barnside.—Houses and shop in Calderwood-road, Coldstream-drive and Dukes-avenue. Messrs. J. & J. Craig & Son, architects, 219, St. Vincent-street, Glasgow :—

*J. Laidlaw & Sons, Ltd., Playfair-street, Bridgeton, Glasgow.

Bebington and Bromborough.—50 houses on the Beaconsfield-road estate, New Ferry, for the U.D.C. :—

*Lloyd & Cross, Birkenhead £14,123 16
(In lieu of tender withdrawn.)

Bingham.—8 houses at Bingham and 8 at Radcliffe-on-Trent, for the R.D.C. Mr. C. W. Kendrick, Housing Surveyor :—

*W. Foster & Son, Grantham, 41, Castle Gate, Grantham £4,391

Birkenhead.—Conversion of stables at the depot into a garage, for the T.C. Mr. R. W. Johnston, Borough Engineer :—

*Frank Thomas & Son, Birkenhead £170

Birmingham.—Chapel in North Aisle of the church to be known as the Chapel of Remembrance, for the Parochial Council of St. Paul's Church, Hamstead (Vicar, the Rev. R. H. McCall) :—

*Broomsgrove Guild, Ltd., Broomsgrove.

Birmingham.—Shop front at 201-202, Broad-street, Birmingham :—

*A. Edmonds & Co., Ltd., Constitution-hill, Birmingham.

Birmingham.—Factory premises at the corner of Pershore-street :—

*R. Fenwick, Ltd., 40, William-street, Birmingham.

Bredbury and Romiley.—Public conveniences adjacent to the "Romiley Arms" public house, for the U.D.C. Mr. H. W. Marsden, surveyor :—

*Fred Booth & Sons, Hyde £670

Bristol.—Elementary school at Connaught-road, for 320 senior boys, 320 senior girls and 500 infants, for the C.B. :—

Builder's work—
*E. A. W. Poole & Son £45,575
Plumber's work—
*E. A. W. Poole & Son £2,265
Heating apparatus—
*A. Scull & Son, Ltd £3,729

Bristol.—Enlargements and alterations to the St. Anne's and Wells-road Council schools, for the C.B. :—

St. Anne's school—
*W. J. Bray £459
Wells-road school—
*S. C. Taverner & Co. £477

Burton-on-Trent.—Additions to factory in Burton-road, for the British Goodrich Tyre Co., Ltd., 50, Pall Mall, London, S.W.1. Mr. T. Jenkins, F.R.I.B.A., architect, Arcade-buildings, Strand-street :—

Builders—*George Hodges & Son.
Steelwork—*Burton Constructional Engineering Co., Ltd.
Patent glazing—*Mellowes & Co., Sheffield
(Rest of Burton-on-Trent.)

Chester.—Installation of low-pressure hot water central heating system at the nurses' home annexe at the City Hospital, Hoole-lane, for the P.A.C. Mr. C. Greenwood, City Engineer :—

*F. J. Proud & Sons, Chester.

Coatdyke.—Erection of All Saints' Catholic school, for the Lanarkshire C.C. Mr. John Stewart, architect, Albert-street, Motherwell :—

*Gavin Shanks & Sons, Public Works Contractors, Coatbridge.
Painter—*Alexander Swan, 4, Bank-street, Coatbridge.
Heating engineering and electric installation—
*Lanarkshire Works Department, Motherwell.

Crewe.—Premises in Market-square, for Messrs. Marks & Spencer, Ltd., Michael House, Baker-street, London, W.1. Messrs. Jones & Rigby, F. and L.R.I.B.A., architects, Lord-street, Southport :—

*Bovis, Ltd., London, W.1.

Criccieth.—Painting and redecorating interior and exterior of Chapel Mawr C.M. Church, repointing the front of the chapel and general repairs to interior, for the Trustees :—

*E. Jones, Ltd., Liverpool £401

Edinburgh.—16 houses at West Saville-terrace. Mr. T. Bowhill Gibson, architect, 30, Rutland-square :—

*D. Alexander, 5, Salisbury-place, Edinburgh

Edinburgh.—Nine houses in March-road, Black Hall. Mr. Allan Goodwin, architect, 34, Castle-street :—

*T. S. Henderson, 40, Marchieston-street, Edinburgh.

Edinburgh.—5 houses in Orchard-road and Ravelsline Dykes. Messrs. Chas. Tweddie & Son, architects, 54, Frederick-street :—

*C. McKendrick, 2, Charlotte-place, Edinburgh.

Erpingham.—22 houses, for the R.D.C. Mr. G. L. Evatt, architect, St. Peter's-road, Sheringham :—

*J. Beckett, Hindolvestone £6,324

Faringdon.—64 houses, for the R.D.C. :—

*E. H. Bradley & Sons £17,258

Featherstone.—External painting of 132 houses and one shop, for the U.D.C. :—

*W. Banham £280 10

Flixton.—Structural alterations to the club premises in Flixton-road, for the Committee of the Flixton, Davyhulme and District Conservative Club, Ltd. Messrs. Leech & Ratcliffe, architects, 7, Cheapside, Manchester :—

*J. Spark & Son, Urmston, Manchester.

Gainsborough.—Eight non-parlour type houses at Hasey, for the R.D.C. :—

*T. J. Lockwood.

Glasgow.—Reconstruction of the premises of Messrs. D. McDougall & Co., 18, Charles-street, St. Rollox. Messrs. H. & D. Barclay, architects, 121, West Regent-street :—

Excavation, brick and mason—*H. McPherson & Co., 480, Springburn-road.
Steel structural—*Glasgow Steel Roofing Co., 143, Balmore-road, Possilpark.
Joinery, carpentry and ironmongery—*A. Wilson & Sons, 10, Quehill-street, Springburn.
Cement and slater—*W. Tonnar & Sons, North-street, Charing Cross.
Plumber — *McCulloch & Griffen, Rose-street, Garnethill.
Electric installation—*Allan, Arthur & Ure, 212, St. Vincent-street.
(All of Glasgow.)

Glasgow.—Reconstructions to Eglinton-street bakery, for Messrs. R. Johnstone & Son. Messrs. Miller and Black, architects, 132, West Regent-street :—

Excavation, brick and mason — *McLeod & Campbell, Farmiloan-road, Rutherglen.
Steel structural—*Lambhill Iron Works, Ltd., Possilpark.
Joinery, carpentry and ironmongery — *J. McAulay & Co., Albert-drive, Pollockshields.
Plumber—*A. Anderson, Ltd., 3, Abbot-street, Shawlands.
Slater—*R. McGill, 14, Brook-street.
Patent glazing—*W. Ross Hay, The British Challenge Co., 97, Douglas-street.
Plaster—*R. McGill, Brook-street.
(All of Glasgow.)

Glasgow.—214 houses at Homelea housing site, for the Corporation. Mr. William H. McNab, Housing Architect, Director's Housing Office, Trongate :—

Excavation, brick and mason—
*Kirkwood & Smith, Ltd., 240, Cathcart-road, Cathcart £33,293 3 0
Joinery, carpentry and ironmongery—
*G. Brown, 319, Bath-lane 15,445 18 1
Slater—
*P. White & Co., Ltd., Pant-street, Parliamentary 3,450 17 4
Plumber—
*McCulloch & Griffen, Rose-street, Garnethill 10,077 14 0
Plaster—
*Hugh S. Bathgate, 540, Duke-street, Dennistoun 3,598 17 11
Glazier—
*William Meikle & Son, 21, Wellington-street 700 2 10
(All of Glasgow.)

Hawick.—Joinery work at the public baths, for the Corporation. Mr. T. Cuthbert, Burgh Architect :—

*W. Scott & Son, Orrock-place, Hawick £348

Hinckley.—Six non-parlour houses in Woodland-avenue, for the R.D.C. Mr. E. H. Crump, architect, Barclays Bank-chambers :—

†T. G. Lee, Stoke Golding, near Nuneaton £1,870

Hollingbourne.—Five pairs of houses at Langley and 2 pairs at Grafty Green, for the R.D.C. :—

*W. Cashford & Son £4,431 15

Huddersfield.—For (*a*) filter house, tanks and construction of roadways; (*b*) installation of a filtration plant at the Deerhill reservoir, near Meltham, for the T.C. Mr. W. Jagger, Borough Engineer :—

(*a*)*J. Wimpenny & Co., Linthwaite, Huddersfield.
(*b*)*Bell Bros. (Manchester 1927), Ltd., Denton, Manchester.

Kingsbury.—Exterior decorations to 48 houses on the Council housing site, High Meadow-crescent, for the U.D.C. Mr. W. Charter Wilson, clerk :—

*Perryman, 12, Tennyson-road, Kilburn, N.W.6 ..... £218 14

Knottingley.—Three pairs of semi-detached houses at Warren-avenue :—

*J. F. Rhodes.

Larkhall.—Outside painting on 222 houses, for the Lanarkshire C.C. Mr. Peter Smith, County Housing Architect, Hamilton :—

*T. MacFarlane, Bellshill.

Leeds.—Block of offices and warehouse at Dock-street, for Mr. Longley. Messrs. A. & F. Mosley, architects, Wormald-row, Leeds :—

Steelwork—*Walter Scott, Ltd.
Builder and joiner—*R. Lawson.

Linthwaite.—Lavatory accommodation to Wesleyan Sunday schools. Messrs. Lunn & Kaye, architects, Milnsbridge, Huddersfield :—

Masons—*Walker Bros., Golcar.
Joiners—*Wrigley & Beaumont.
Plumbers—*Mallinson & Swallow.
Plasterers and painters—*Thos. Sutcliffe & Sons.
Concrete and terrazzo work—*E. H. White, Brierley Wood.
(Rest of Linthwaite.)

London.—Demolition and excavation work on the properties acquired for the extension of the generating station, for the Fulham B.C. :—

	£	s.	d.	Transport.
N. Lewis, West Wickham	49,200	0	0	(*a*)
Thomas Sivers	21,400	0	0	(*a*)
J. Moore & Son	19,211	13	4	Water
Wey Demolition Co., Addlestone	17,967	3	4	(*a*)e
Gordon Transport Co., Ltd.	16,085	0	0	Watr
Mitchell Conveyor & Transporter Co., Ltd.	15,550	0	0	(*a*)
R. Dixon & Sons	15,130	0	0	(*a*)
Hndsons, Ltd.	13,686	13	4	(*a*)
Gordon Transport Co., Ltd.	13,585	0	0	Road
Balfour, Beatty & Co.	13,500	0	0	Water
The Demolition & Construction Co., Ltd.	13,055	0	0	Water
Westminster Wharfage Co., Ltd.	12,545	0	0	Water
Wm. Moss & Sons, Ltd.	12,533	6	8	Water
Wm. Moss & Sons, Ltd.	11,866	13	4	Road
Commercial Structures, Ltd.	11,830	0	0	(*c*)
Greenham Excavation Co., Isleworth	11,585	0	0	Water
Maberley Parker, South Wales	11,500	0	0	(*a*)
Greenham Excavation Co., Isleworth	11,251	13	4	(*c*)
Westminster Wharfage Co., Ltd.	11,211	13	4	(*b*)
The Demolition & Construction Co., Ltd.	11,055	0	0	Road
Walter Lawrence & Sons, Ltd.	11,015	0	0	(*a*)
W. & C. French, Ltd., Buckhurst Hill	10,791	13	4	Water
Greenham Excavation Co., Ltd.	10,585	0	0	Road
Goodman Price, Ltd.	10,575	0	0	Water
J. Moore & Son	10,545	0	0	Road
Westminster Wharfage Co., Ltd.	10,461	13	4	Road
W. R. Cunis, Ltd.	10,050	0	0	Water
John Mowlem & Co., Ltd.	9,845	6	8	Water
Goodman Price, Ltd.	9,575	0	0	Road
Edwards Construction Co., Ltd.	9,383	6	8	Water
A. Waddington & Son	9,250	0	0	Water
J. Harry & Son, South Wales	9,000	0	0	Water
John Mowlem & Co., Ltd.	8,678	13	4	Road
Willmett Bros.	8,500	0	0	Water
J. Harry & Son, South Wales	8,000	0	0	Road
‡E. D. Winn & Co., Ltd., Knightsbridge	7,483	6	8	Water

(Remainder of London.)
(*a*) Not stated. (*b*) Two-thirds Road, one-third Water. (*c*) Water and Road.

¶London.—The following works contracts have been placed by the War Office during the week ended September 15 :—

Bramley—erection of school of instruction—W. Laughton, Bramley.
Isle of Grain—three concrete buildings—G. E. Wallis & Sons, Ltd., Maidstone.
Catterick—rail access to Royal Army Ordnance Corps Depot—H. Coxhead & Co., Ltd., Middlesbrough.
Lichfield—repairs to roads—C. Williamson & Co., Ltd., Beeston.
Fort George—artificers' work—C. Young, Ardersier.

¶**London.**—Tenders accepted by H.M.O.W., for the week ended September 15 :—
Slough—maintenance work—J. Deverill, Ltd., High-street, Slough.
Huddersfield—maintenance work—E. Dyson & Sons, 198, New Hey-road, Oakes, Huddersfield.
Burnley—maintenance work—H. & R. Clegg, Ltd., Bridge-street, Burnley.
Bristol, Employment Exchange—heating—The Brightside Foundry & Engineering Co., Ltd., 17, Summer-row, Birmingham.
Bristol, Central Telephone Exchange—alterations—E. A. W. Poole & Son, Hollywood-road, Brislington, Bristol.
Sanctuary Building, S.W.1—painting—F. Troy & Co., Ltd., 194, Finchley-road, N.W.3.
Winchester—maintenance work—W. T. Fennell & Co., 20, Hyde-street, Winchester.
Worcester Sorting Office—heating—The Brightside Foundry & Engineering Co., Ltd., 17, Summer-row, Birmingham.
Halifax—maintenance work—Fielding & Bottomley, South-parade, Halifax.

London.—Provision of a model kitchen in the basement at the electricity showrooms, and alterations and additions to the present demonstration room and storeroom, for the Fulham B.C. :—

Savage & Co.	£478 18 3
W. J. Marston & Son	478 1 6
‡Swan Bros., Beaufort Works, North End-road, S.W.6	260 17 6

(All of London.)

London.—Sub-station in Epirus-road at the rear of 334, North End-road, for the Fulham B.C. :—

Savage & Co.	£265
Swan Bros.	242
‡W. Brooks & Son, 759, Fulham-road, S.W.6	208
W. J. Marston & Son	189

(All of London.)

London.—Repairs, painting and other works at Sebbon-street depot, for the Islington B.C. :—

S. H. Davies	£220 13 0
A. Cheetham	183 0 0
Stevens & Sons	180 5 0
John C. Mather & Son	163 0 0
Thurman & White, Ltd.	154 0 0
Randall Bros.	152 7 0
J. Johnson	149 17 0
*W. J. Smith & Co., 311, Hornsey-road, N.19	146 4 3

(All of London.)

London.—Exterior painting and interior decorative work at the Town Hall, for the Islington B.C. :—

J. Johnson	£408 0 0
H. J. Edgar	394 0 0
E. Maffia & Sons	366 0 0
F. Liley & Sons	352 15 0
Stevens & Sons	350 0 0
J. C. Mather & Son	325 0 0
L. Kazak, Ltd.	323 0 0
R. Woollaston & Co.	314 15 0
Hammond & Barr, Ltd.,	300 12 6
Decra, Ltd.	297 0 0
S. C. Grover	278 10 0
*C. & T. Painters, Ltd., Mordaunt-road, Harlesden, N.W.10	269 10 1

(All of London.)

London.—Painting and decoration of certain exterior parts of the Town Hall, for the Fulham B.C. Borough Surveyor :—

W. R. Norton	£1,192 16 6
E. C. Hosking	472 0 0
Christian & Sinclair	371 10 0
Collis & Co.	341 14 1
T. C. Randall	338 0 0
J. P. William	316 7 6
Maple & Co.	310 0 0
Callow & Wright	307 4 0
F. C. Baldwin	286 5 0
E. V. Layland	270 10 0
W. J. Marston & Son	269 12 0
Ferguson & Frawley	251 2 0
Walker, Ltd.	248 0 0
W. Rands	215 0 0
C. & T. Painters	211 1 0
W. Stamper & Co.	199 0 0
King, Greer, Ltd.	190 16 0
S. C. Grover	186 10 0
‡T. E. Joyce, London, S.W.17	158 12 6

(All of London.)

London.—Painting and redecoration works required at the tuberculosis dispensary, for the Fulham B.C. Borough Surveyor :—

W. R. Norton & Co.	£557 15 0
E. C. Hosking	311 7 6
G. H. Preston & Sons	307 0 0
F. C. Baldwin & Co.	294 15 0
Maple & Co.	292 0 0
W. Brooks & Son	288 8 6
J. P. Williams, Ltd.	284 12 6
H. J. Edgar	256 0 0
E. V. Layland & Co.	252 15 0
Ferguson & Frawley	241 16 5
Callow & Wright, Ltd.	215 0 0
Christian & Sinclair	211 0 0
William Stamper	197 0 0
C. & T. Painters, Ltd.	192 6 3
A. Burton	185 10 0
King, Greer, Ltd.	184 6 9
W. J. Marston & Son	176 13 0
Walter Rounds	170 15 0
T. C. Randall & Son, Ltd.	168 12 0
Walker (Tooting), Ltd.	166 0 0
S. C. Grover	139 5 0
‡T. E. Joyce, 49, London-road, S.W.17	116 10 6

(All of London.)

London.—Provision of additional office accommodation at the Islington electricity generating station, for the Islington Borough Council. Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., architect to the Council, 120, Moorgate, London, E.C.2 :—

Cook & Co.	£3,096
Smith & Ward	2,932
Commercial Structures, Ltd.	2,660
Ferris Bros.	2,612
N. Woolaston & Co.	2,599
L. Kazak, Ltd.	2,570
John C. Mather & Son	2,540
King & Stannard, Ltd.	2,440
W. H. Wagstaff & Sons	2,385
Walter Rands	2,273
Hooper & Hooper	2,217
H. Ginn & Sons	2,052
Chas. Berger	1,956
A. Bedford	1,890
*Goddard & Phillips	1,820

(All of London.)

London.—Shop front at 379-381, Brixton-road, Brixton :—
*A. Edmonds & Co., Ltd., Constitution-hill, Birmingham.

Manchester.—Central indicating station and offices rear of the "Cedars," Wilmslow-road and Wingate-drive, Didsbury, for the Central Electricity Board, Grid House, 47, Palatine-road, Withington. Messrs. W. H. George & Son, architects, 7, Warrington-street, Ashton-under-Lyne :—
*Edwin Marshall & Sons, Ltd., Ashton-under-Lyne.

Manchester.—Reconstruction of showrooms on ground floor at corner of Deansgate and Blackfriars-street, for Messrs Stewart & Stewart, 46, Deansgate :—
*W. Mason & Son, Ltd., Leeds.

Mansfield.—Wesleyan Sunday school in Fifth-avenue, Clipstone, near Colliery Village, for the Wesleyan Circuit. Mr. F. W. Tempest, A.R.I.B.A., architect, Market-chambers :—
*Blythe & Son, Mansfield.

Melbourn.—38 houses, for the R.D.C :—

Foxton, 10 houses—	
*Hale & Sons	£2,667 10
Barrington, 20 houses—	
*F. Hale & Sons	5,315 0
Litlington, 8 houses—	
*R. H. Wale	2,093 0

Milnrow.—12 houses at Haugh, for the U.D.C. Mr. A. Travis, L.R.I.B.A., architect, Union Bank-chambers, Rochdale :—
*R. & T. Howarth, Rochdale.

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Newton Rural.—Houses, for the R.D.C. :—

Four houses at Lustleigh—	
*T. F. Clarke, Kingsteignton	£1,281 5 6
Two houses at Moretonhampstead—	
*Carpenter & Mayne, Newton Abbot	756 0 0
Two houses at Ilsington—	
*Carpenter & Mayne, Newton Abbot	726 0 0
Two houses at Chudleigh—	
*F. J. Eales, Ashburton	756 0 0
Four houses at North Bovey—	
*J. W. Cox & Son, Newton Abbot	1,487 10 0
Two houses at Manaton—	
*J. W. Cox & Son, Newton Abbot	712 12 0
Two houses at Ippiepen—	
*J. W. Cox & Son, Newton Abbot	676 0 0

Oldbury.—90 houses at Mushroom Hall estate, for the U.D.C. Mr. W. Greenwood, Surveyor :—
*Direct Labour £27,096

Ollerton.—For (*a*) extensions of the miner's welfare institute; (*b*) bandstand on the welfare recreation ground, for the Miners' Welfare Committee, Butterley Colliery. Surveyor's Department, Butterley Colliery Co. :—
(*a*) *Coleman & Blackburn, East Kirkby, Notts.
(*b*) E. C. Walton & Co., Sutton-in-Ashfield.

Orrell.—98 houses on the Park-road site, for the Council :—
*Clough & Gaskell.

Oswestry.—12 non-parlour type houses, for the R.D.C. Mr. C. B. Barnes, engineer :—

Llanymynech—	
Francis Roberts & Sons, Trevor, near Wrexham	£668 2 6
R. P. Jones, Llanfyllin, near Oswestry	648 18 6
J. Barlow & Sons, Oswestry	620 0 0
Griffiths Bros., Pant, near Oswestry	616 10 0
*W. Jones, High-street, Whittington	616 1 0
Kinnerley—	
Francis Roberts & Sons, Trevor, near Wrexham	648 13 11
R. P. Jones, Llanfyllin, near Oswestry	645 19 0
W. Jones, High-street, Whittington	614 11 4
Griffiths Bros., Pant, near Oswestry	603 10 0
*J. Barlow & Sons, Oswestry	600 0 0
Elbridge—	
R. P. Jones, Llanfyllin, near Oswestry	1,389 0 0
Francis Roberts & Sons, Trevor, near Wrexham	1,297 7 10
J. Barlow & Sons, Oswestry	1,240 0 0
W. Jones, High-street, Whittington	1,210 13 4
*Griffiths Bros., Pant, near Oswestry	1,207 0 0
Babbinswood—	
Francis Roberts & Sons, Trevor, near Wrexham	1,297 7 10
R. P. Jones, Llanfyllin, near Oswestry	1,255 18 0
Griffiths Bros., Pant, near Oswestry	1,207 0 0
W. Jones, High-street, Whittington	1,186 3 4
*J. Barlow & Sons, Oswestry	1,175 0 0

Paisley.—New property and offices in High-street, for Messrs. J. Bell's, Ltd. Messrs. Abercombie & Steel Maitland, architects, 1, County-square, Paisley :—
Excavation, brick and mason—*Boyle & Co., 27, Lady-lane, Paisley.
Plumber—*J. Wilson & Sons, Espidaire-street, Paisley
Tile and marble works—*R. Brown & Sons, Fergusiie-works, Paisley.
Joinery, carpentry and ironmongery—*H. Young & Son, Nelson-road, Paisley.
Slater work and roughcasting — *Gillespie (Slaters), Ltd., 32, New Sneddon, Paisley.

Portsmouth.—12 flats in Britain-street, Portsea, for the T.C. Mr. R. J. Jenkins, City Engineer :—
*Carter & Fancey, 25-29, Hyde Park-road, Portsmouth £4,200

Portsmouth.—Alterations and additions for the provision of accommodation for aged inmates and sleeping accommodation for officers at the institution, for the T.C. :—
‡Frank Bevis, Ltd. £365 10

Radcliffe.—140 houses on Limefield estate, Walmersley-road, Bury. Mr. S. Ormerod, A.I.A.S., architect, Coney Green :—
*Charles Tunnah & Son, Radcliffe, near Bury.

Rochdale.—Bridge in reinforced concrete, together with approach viaducts over Rochdale canal in Kingsway, for the T.C. Mr. S. H. Morgan, Borough Surveyor :—
*Morrison & Sons, Ltd., Liverpool.

Salford.—Sub-station at Wheaters housing estate, for the T.C. Mr. L. Romero, M.I.E.E., Electrical Engineer, Frederick-road depot :—
*A. Tomkins, Salford £448

Scarborough.—Houses and flats, for the C.B. Borough Engineer:—
*Renard & Marsden, Argyle-street, Hull.

Scunthorpe.—Bazaar premises and stores, for Messrs. Marks & Spencers, Ltd., Michael House, 72, Baker-st., London, W.1. Messrs Norman Jones and Leonard Rigby, F. & L.R.I.B.A., architects, William Deacons' Bank-chambers, 271, Lord-street, Southport:—
*Bovis, Ltd., London, W.1.

Sheffield.—Showrooms, works and offices in Porter-street, for the Sheffield Cabinet Co. Messrs. Rawcliffe & Ogden, architects, 39, Ogden-street:—
*W. & A. Forsdike & Co., Sheffield.

Southampton.—Chemical laboratory at Itchen secondary school, for the C.B.:—

R. H. Hammond	£827
Jenkins & Sons, Ltd.	569
J. Bates & Sons (Hedge End)	528
H. W. Small & Son	480
A. E. Wells	460
Bignell & Gauntlett	446
‡S. F. Paull	418

(Borough Engineer's estimate: £460.)
(All of Southampton.)

Southampton.—External painting blocks of houses, for the C.B.:—

Bassett (block No. 5, 62 houses)—

R. H. Hammond, Shirley	£396 0
A. B. Ross, Shirley	396 0
F. Jolliffe, Millbrook	376 10
Chalk & Sons, Shirley	370 10
*Hart & Norris, Southampton	287 8
G. Lansley, Woolston	250 0

Bassett (block No. 6, 56 houses)—

— Marchment, Chantry-road	£525 0
R. H. Hammond, Shirley	357 0
F. Jolliffe, Millbrook	342 10
A. B. Ross, Shirley	338 0
Chalk & Sons, Shirley	334 10
T. E. Williams, Sholing	296 0
*Hart & Norris, Southampton	263 4
G. Lansley, Woolston	236 0

Shirley Warren (Block No. 8, 50 houses)—

R. H. Hammond, Shirley	£344 0
S. F. Paull, Regent's Park	338 0
A. B. Ross, Shirley	316 0
J. J. Udall's Building Co., Ltd.	290 0
Chalk & Sons, Shirley	287 0
F. Jolliffe, Millbrook	270 10
G. Lansley, Woolston	260 0
E. J. Westley, Bassett	234 5
*Hart & Norris, Southampton	234 0

Southampton.—Kitchen at the Burgess-road mission hall, for the C.B.:—

Wm. Saunders & Sons	£295
Jenkins & Sons, Ltd.	286
J. J. Udall's Building Co., Ltd.	249
R. H. Hammond	243
S. F. Paull	223
A. Holley	190

(Borough Engineer's estimate: £200.)
(All of Southampton.)

Southport.—External painting and internal decorations at New Hall Hospital, for the T.C. Mr. A. E. Jackson, Borough Engineer:—
*Woolfall & Rimmer, Southport £425

Stratford-on-Avon.—16 houses at Wellesbourne and 4 at Long Marston, for the R.D.C.:—
‡J. Aston & Son, Binley-road, Coventry £5,525

Sunderland.—Alteration and extension of 4 houses in Clifton Villas for the purpose of a training college hostel for women students, for the E.C.:—
*Randle & Co., Sunderland £10,484

Swansea.—Further 100 houses at Mayhill, for the C.B.:—
*L. H. Samuel, Swansea £30,274 9 3

Swansea.—Erection of the New Gors Council school, for the C.B.:—
*T. E. F. Whitear, Ltd., Stockton-on-Tees £16,250

Thetford.—6 houses at Methwold, for the R.D.C Mr. A. V. Adcock, surveyor, Well-street:—
*Olley Bros., Brandon £1,596 3 8

Wakefield.—Municipal hospital at Snapethorpe, for the T.C. Mr. L. Ives, City Surveyor, Town Hall:—
Builders—*C. H. Prince.
Plasterer—*R. H. Lockwood.
Plumber—*W. Andrassy.
Slater—*J. Ives.
Electrician—*C. Taylor & Co.
(All of Wakefield.)
(Estimated cost, £71,000.)
Joiner—*R. Race & Sons.

Wallasey.—Four combined houses and shops in Pasture-road, for the Corporation. Mr. L. St. G. Wilkinson, architect, Town Hall, Brighton-street:—
*Bennett Bros., Wallasey £2,354

Wath-on-Dearne.—30 bungalows with drainage, etc., in Hollowgate-road, West Melton, for the U.D.C. Mr. H. Cranage, surveyor:—
*E. Brown & Son, Barnsley-road, Wath-on-Dearne £5,935

West Kesteven.—Eight Houses at Barrowby, for the R.D.C.:—
*Read Bros. £2,095 5 10

Wetherby.—14 houses at Boston Spa and six at Bardsley, for the R.D.C. Mr. A. Suttel, 2, Victoria-avenue, Harrogate:—
*Carr & Kettlewell, Tadcaster.

Wrexham.—200 houses on the Spring Lodge estate, for the T.C. Messrs. Lockwood, Abercrombie & Saxon, architects, Cathedral-chambers, Chester:—
*E. W. Gittins & Sons.

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